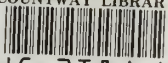


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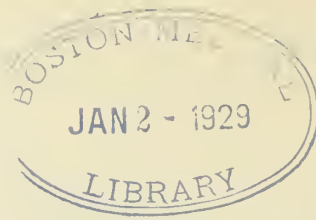
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 COMMITTEE } C. B. FRANCISCO, M.D.
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ORIGINAL ARTICLES

THE ACID BASE BALANCE IN CHILDREN WITH REFERENCE TO INTESTINAL DISTURBANCES*

E. B. WOODS, M.D.

ST. LOUIS

Acidosis and the disturbance of the acid-base balance has increasingly attracted the attention of the general practitioner, and "it is not a sweeping statement to maintain that all forms of severe illness are complicated at some time or another by acidosis. It is by no means a condition occurring only in nephritis or diabetes. It is an accompaniment of diseases involving cirrhosis of the liver, and it is present in severe fever."¹ In fact, it is a terminal complication in every wasting disease and is found either secondary to or accompanying severe toxemias and toxic substances introduced as medicines, anesthetics, or the like. It is of course to be considered as a symptom and not a disease or etiological factor in producing the disease.

The acid-base balance mechanism may be considered the system of exhaust for the body by which most of the waste products of metabolism are carried from the site of combustion to the portals of exit. The blood and tissues maintain their neutrality by means of an equilibrium in which the proteinates and the alkali salts of phosphoric and carbonic acid play the chief role. These so-called buffer salts are the products of the interaction of strong bases and weak acids. The great importance of regulating the reaction of the body within narrow limits is indicated by the number of elaborate mechanisms available for maintaining a normal balance. Acids and bases which tend to accumulate are excreted either as salts of the nonvolatile acids

through the kidneys or from the blood into the intestine, or as the volatile CO₂ through the lungs.²

A solution is acid, neutral or alkaline, depending upon the relative concentration of hydrogen ions and of hydroxyl ions. Pure water, used as our standard of neutrality, contains 1/10,000,000 N solution of ionic hydrogen. For convenience, the ex-

potential notation is $\frac{1}{10,000,000} N = \frac{1}{10^7} N = -10^7 N$.

Since the base is always 10 and the logarithm always negative, the expression is further simplified by dropping both the figure and the minus sign. The hydrogen ion concentration of pure water, then is expressed in terms of its exponent, pH 7.0. Van Slyke³⁶ suggests the two limits of reaction within which the blood must remain for the continuance of life as being 7.0 and 7.8, the former producing coma and the latter tetany. Normally the range is from 7.3 to 7.5. If the pH falls below 7.3, or if the available reserves of alkali are abnormally diminished, the condition is called an acidosis.

By alkaline reserve we mean the bicarbonate concentration of the plasma together with other basic constituents. It is usually very resistant to the influence of the diet.³ The pH of the blood is immediately the result of NaHCO₃ and H₂CO₃. The various basic elements are distributed to various tissues.

Fixed base available for acid excretion comes from three sources: (1) In aqueous solution in the body supposedly distributed at an even level of concentration in all parts of the body; (2) the consumption of protoplasm releasing the fixed bases; (3) calcium, if needed, may be taken from the bones.⁴

Yandell Henderson⁵ distinguishes the following sources of buffer effects among the proteins of the body: first, the form of buffering occurring in the tissues, as in the muscle, which appears to come largely from proteins serving as weak acids and com-

* From the Laboratory of Physiological Chemistry, University of Missouri, and the Department of Pediatrics, St. Louis University School of Medicine.

bined with inorganic alkalies; second, the haemoglobin-alkali of the corpuscles which is the chief factor in buffering the CO_2 of the blood. The latter should be sufficient to take care of the pH of the blood in all conditions except in asphyxia.

The CO_2 combining power of the blood is a measure of the alkali reserve of the blood and normal blood usually yields bicarbonate upon addition of acid equivalent to form 53 to 77 cc. per 100 cc. of blood. There is a great shift in this factor due to the different conditions to which the human mechanism must adjust itself, such as altitude,⁶ quantity of blood, and oxidation processes taking place within the body. An increased alkali reserve is found during digestion due to the secretion of HCl, and a decreased alkali reserve during physical exercise, due to the formation of lactic acid as a result of oxidation. Ylppo (1925) concludes that the new-born baby has a tendency to acidosis, the latent source of which he believes is erythrocytes, as he finds that alkali of the CO_2 free serum is decreased by the addition of erythrocytes. Together with this there is usually an increased blood nitrogen and amino acid content.⁷

The concept of acid or alkali diet is gaining a wide acceptance in medical practice. Alkaline diets are indispensable to infants where growth is rapid. There use is very strongly indicated in pregnancy and lactation. From Chittenden's⁸ studies it seems that on an alkaline diet the body is capable of more sustained effort than on acid diets. This however is not regarded as a necessity by Greenwald,⁹ nor by Lamb and Evvard.¹⁰ Conditions which permit a consistent excess of free fatty acids in the intestine facilitate the absorption of phosphorus. The excess of mineral matter is excreted chiefly in the form of calcium phosphate. For this reason the food accessories that influence calcium metabolism have a direct influence on acid-base balance. The prophylactic action of cod liver oil may be in rendering the intestinal tract less permeable for calcium excretion.

Though acidosis, both compensated and uncompensated, has bulked so largely in recent medical literature, alkalosis is by no means a negligible factor in pathological conditions. From what has already been said with reference to the maintenance of the reaction of the blood, a shift towards the alkaline side may be produced either by a diminution in its carbonic acid, or by an increase in its bicarbonate content.¹²

There are three chief causes for such an alkalosis: (1) An excess of bicarbonate where large quantities have been administered. (2) Similarly an excess of bicarbonate is found in cases of vomiting in which there is great loss of HCl, frequently termed "gastric tetany." (3) A decrease in the carbonic acid content of the blood results from hyperpnea, whether voluntary or caused by oxygen want.

The normal kidney will compensate the alkalosis of hyperpnea by rapid excretion of alkali, with the paradoxical result that the body's major defense against acidosis becomes exhausted.²⁶

The principal signs and effects of an alkalosis are an alkaline urine with the urinary ammonia greatly diminished as stated before, and there may be a ketosis developed. Mayers and Booher¹⁵ report that there may be an acid urine in a condition of alkalosis. Conditions of alkalosis have been overlooked in the past for the reason that the clinical symptoms are not readily recognized or easily defined. Symptoms that may be noted are, headache, lassitude, nausea, vomiting, fever, and, in some severe cases, tetany. Not infrequently alkalosis appears to have been mistaken for acidosis, leading to alkaline therapy which aggravated the condition.

The removal of CO_2 from the body, the delivery of oxygen to the tissues, the regulation of neutrality of the blood plasma, and the transfusion of water across the capillaries are all quantitatively related.¹⁶ The cell is a colloidal system made up of water, protein, salts, carbohydrates and fat, which substances, depending upon the nature of the cell, are generally present in definite proportions and undergo a definite series of chemical changes.¹⁷ Intracellular changes are of the same magnitude as intravascular changes upon the injection of HCl. This affects not only the tissue fluid but the reaction of the tissues themselves.¹⁸ This intimate relationship between the blood and the tissue cells often enables one to judge the condition of the latter by the analysis of the former.

Food is supplied in the form of amino acids, monosaccharids, fats, salts and water. The body is constantly elaborating acids as the result of oxidative processes in intermediary metabolism. For example, phosphoric and sulphuric (from protein) also lactic and other organic acids, most of which are eventually transformed into CO_2 and water.¹⁹ The optimum condition for the

successful functioning of a cell seems to be that of a very slightly alkaline medium. The ease with which normal circulatory exchanges may be upset, and thus cause an accumulation of the acidic products of imperfect oxidation, is a constant source of danger. Probably many diseases are characterized by such an acid production, which is so small in some as to be over-shadowed by toxins and other more potent substances. Circulatory diseases and anemias in particular will interfere with the normal cell metabolism and exchange of waste material. Rous and Drury (quoted by Levine¹²) and others²⁰ have shown that there may be a condition of local acidosis without a general one being present.

With an increasing CO_2 tension Cl ions pass from the plasma to corpuscles coincidentally with an increased bicarbonate content of the plasma. The cells have increased their concentration of particles and water flows in to restore the osmotic equilibrium, thereby concentrating the plasma.²¹ It has been suggested that free amino groups in the corpuscles may permit the formation of NaHCO_3 and aminohydrochloride from NaCl and carbonic acid. As these latter are about equal in dissociation there is no important change in the number of particles.

The volatile acids, like carbonic acid, are excreted through the lungs. Carbon dioxide is given off by the lungs without the loss of alkalies from the body and the blood becomes more alkaline again. The lung daily eliminated a quantity of acid equivalent to from 20 to 40 liters of normal acid, while during the same time the kidney excreted fixed or nonvolatile acids and their salts equivalent to from 500 to 1000 cc. of decinormal acid.

"One of the important functions of the kidney is the power of forming acid urines from a neutral or alkaline blood."¹² The kidneys are therefore called upon to regulate not only the osmotic relations within the organism, but also the relative quantities of bases and nonvolatile acidic radicles, which are excreted free and as acid salts. The acidity depends upon organic acids (including carbonic acid) and inorganic acids neutralized either with ammonia or inorganic bases. The ingested foods are responsible to a large extent for the fluctuation of urinary acidity. The kidneys also assist in the maintenance of a balance in the blood by the removal of excess alkali.

The limit of reaction of the urine must

necessarily limit the efficiency of the kidneys for excreting acids, and might easily lead to an excessive loss of base or a piling up of acid in the organism. However, the substitution of ammonia for some of the fixed base occurs and permits the elimination of acids in the form of neutral salts, and a retention of the fixed base by the body. There are two processes, physical-chemical separation of acid, and ammonia excretion, which are separate chemical processes independent and additive. They are about equal to each other.

Ammonia ions when present in the blood are toxic, so the normal concentration there is extremely low, and therefore all of the regulation within the blood is by fixed alkali.²² It has been taught for years¹⁹ that this small quantity in the blood is maintained by a small portion of the ammonia which has not been changed into urea and furnishes ammonia for the neutralization of acids. Nash and Benedict³⁷ have recently shown that the ammonia which is found in the urine is formed by the kidneys. In experiments which deal with acid feeding both inorganic and organic it has been found by the author²³ and others^{10, 24} that the ammonia because of its great excretion in the urine is the first line of defense of the body. However, should this fail because of inability to eliminate acids as ammonium salts, or to separate and excrete the acid radicles, or to form ammonia necessary, the alkali reserve will be then drawn upon. "The necessity for the excretion of an excess of basic radicles occurs less frequently on account of the limits placed by the gastro-intestinal tract by vomiting and diarrhea, and on the absence of formation of base (even organic) in the body."²

Titration of the urine has been considered in a measure an index to the acid-balance of the body, but as we have changed views today of the mechanism, L. J. Henderson suggests that the only procedure which has any degree of accuracy is the pH of the blood. Even the organic acids which are free and unbound in the urine must, because of the reaction of the blood, be practically bound when in the circulation.

As has been formerly and generally used acidosis has been a term applied to ketosis, decrease in alkali reserve, increase of acids in blood or decrease in pH.²⁵ The three general causes of acidosis with the contributing clinical conditions are as follows:

(1) When abnormal acids are produced in excess. These may be precursors of

acetone or other intermediary products of metabolism which are formed because of incomplete oxidation. Conditions causing these disturbances are vomiting, starvation, diarrhea, and such general diseases as diabetes, infections and anoxemia.

(2) When the kidney fails to excrete acids and acid radicles normally produced from the ingestion of foods. Urine decreases in severe diarrhea, starvation and anorexia, and the condition does not permit a sufficient amount of water to pass through the kidneys to carry out the acid phosphate present in the blood stream.

(3) When the bases are lost from the body. This condition is found in kidney disease where there is an increase of Na and K lost from the body,²⁶ but that such a condition exists has been disputed by Holt, Courtney and Falkes* who found that Cl was lost in excessive amounts.

The ability of the kidney to excrete acid is one of the chief defensive mechanisms of the body. Acidosis occurring in diarrhea of infants and young children is not the result of an excess production of acetone bodies, but it is due to the failure of the kidney to eliminate the acid phosphate, the mechanism being similar to that in renal disease.⁵⁶ Such cases may have a severe ketosis but it is thought to occur more frequently when there is an infection present. The blood of these anhydremic infants is concentrated and hence the osmotic pressure is increased. Starling (quoted by Marriott) has shown that the secretion of the urine is greatly decreased as the colloidal osmotic pressure of the blood approaches the arterial pressure in the renal arterioles. Loss of water in purging, vomiting and hemorrhage following operations is responsible for much of the acidosis found in the postoperative period.²⁷ However, in this condition there is an increase of organic acids present, and Delater and Hugel²⁸ suggest that part of the disturbance may be due to failure of oxidation of nonketone acids.²⁹

It has formerly been assumed that acetone (ketone) bodies are very abnormal and that their presence signifies an unusual complication in the course of disease. Whereas we may in many instances liken the mere presence of acetoneuria to fever; for it occurs in most of the infectious diseases of children with much the regularity that fever does. Pyrexia may however develop and in itself be dangerous or fatal; so too a pro-

duction of acetone bodies may in itself determine a fatal outcome. But the quantitative difference between the mere presence of acetone bodies and their production in amount sufficient to threaten life is an enormous one. A significant ketonuria appears in children at consistently lower metabolic acid-glucose ratios than in adults.³⁰

Disturbance of glycogenic storage power of the liver has been advanced as a possible etiology of ketosis accompanying infection. Acute toxic conditions out of proportion to the seeming severity of the infection are frequently seen in the course of acute infectious diseases in young children. Many of these are due to the production of an acidosis.³¹ Tallermann³² would further supplement the etiological factor by causes such as (1) insufficient food intake, because of anorexia and vomiting, (2) increased metabolism associated with fever which will cause decrease in the carbohydrate reserve and (3) disturbance of intermediary metabolism of carbohydrates³³ due in part to over-action of the sympathetic nervous system.

The methods employed for testing an acidosis are somewhat varied but they depend upon the following determinations: (1) Low carbon dioxide combining power of the blood; (2) lowered alveolar carbon dioxide tension; (3) decreased affinity of hemoglobin for oxygen; (4) Sellars' test for reduced alkalinity of the blood (tested for by the increased consumption of alkali necessary to produce an alkaline urine); (5) low pH of the blood; (6) increased intensity of urinary acidity (or increased ammonia output); (7) decreased period of time which one may hold their breath (Y. Henderson) which shows the extent of retention of alkali by the blood.

The clinical signs of acidosis are seldom evident until in a rather advanced state, or a stage of decompensation.³⁴ Change in breathing or hyperpnea is an early and the most important sign. It is characterized by deep, pauseless excursions. The rate is usually increased and the motions are both thoracic and abdominal. It is described as "air hunger" and because of increased aeration of the blood, the lips and cheeks are often a bright cherry red. *Hyperpnea without cyanosis is the only reliable and pathognomic clinical symptom.*

The sensorium is markedly affected. At first there is extreme restlessness and excitement; later apathy, drowsiness and stupor develop. Anhydremia frequently develops, manifested by sunken eyes, de-

* Quoted by Howland and Marriott from Holt, Courtney and Falkes, *Am. J. Dis. Child.* 9:213 (1915).

pressed fontanelle, and dry skin hanging in folds, more especially in the presence of repeated vomiting. The face is anxious and pinched. Diarrhea may accompany the acidosis. A fruity odor of the breath is sometimes present; this is characteristic of a ketosis. There may be a hypoglycemia and a slight degree of leukocytosis with fever, the latter two symptoms depending for the most part upon the accompanying disease.

Not all cases of severe diarrhea terminate in acidosis, and the disease may end fatally and be accompanied at no time by reduction of carbon dioxide values or hyperpnea.¹⁹ Many different etiological theories have been given for the group of non-infectious diarrheas with unknown cause.²⁵ The first of these we shall discuss is the "lack of acidity theory." Arnold³⁹ states that the social and economic environment of industrialized communities introduce many new factors that must be taken into consideration. When the external temperature and humidity rise to the point, in our urban populations, where the skin is not able to liberate the heat resulting from metabolism, the internal temperature of the infant is elevated, which causes changes within the body, at least one of the reactions being a diminution in the secretion of hydrochloric acid by the stomach.⁴⁰ This affects the acidity of the duodenum and upper part of the jejunum and controls the bacterial flora there. Although Davidson found that more of the cultures were sterile when there was a pH of 5.1 to 5.7 than when there was a pH of 3.6 to 4.4. Arnold was able to show that in experimental animals the type of bacterial flora found by Moro³⁸ could be produced by causing the contents of the intestinal tract to become alkaline. He injected alkaline buffered solutions directly into the duodenum and induced a depression of gastric secretory function by the elevation of the internal temperature of the animal.

Second, some authors would ascribe all of the symptoms to the manifestations of anhydremia⁴⁴ rather than to acidosis. During the development of anhydremia loss of weight occurs which is more rapid than that observed in any other condition. The skin becomes gray, wrinkled and dry and loses its elasticity. The surface of the body may become anesthetic. The mucous membranes are dry and lusterless. Salivary secretion ceases. The tongue and lips are shriveled. In infants the fontanelle is depressed. The extremities are cold even

though the rectal temperature may be high. The respirations are deep and often stertorous. Transient deafness and blindness have been observed. The mental state is one of stupor. Terminal convulsions are not infrequent. (The nervous symptoms are in part referable to uremia, the result of impaired renal function.⁴²)

If the volume flow of blood through the abdominal vessels is diminished to any such degree as it is in the extremities, one would expect that the functional ability of the gastro-intestinal tract to care for food would be greatly impaired. Such seems to be the case, for it has been shown that dogs rendered anhydremic by a diminished intake of water are very prone to the development of diarrhea and vomiting when fed. The same is certainly true of infants.⁴⁸ "To sum up, the entire clinical picture presented by infants who have lapsed into a toxic, shock-like condition following severe diarrhea may be explained on the basis of the water loss from the body."⁴³

Third, Mellanby⁴⁴ was the first to suggest that B-imidazoethylamine (histamin), a product of bacterial action on histidin that occurs normally in the food, was the cause of toxic symptoms. Marriott⁴³ found that this substance when given by mouth to animals causes diarrhea and vomiting and when injected intravenously gives rise to shock-like symptoms, but that the condition of the blood after such injection was quite different from that observed in the sick infants. There was no desiccation or high protein content in the animals. Anhydremia, then, is the result of a vicious circle which is started either as the result of excess fat or carbohydrate in the food, or secondary to parenteral infections, or itself infectious in origin or at times even the result of injudicious catharsis. (Marriott⁴³)

Recent writers, however, are still inclined to believe that the symptoms cannot all be due to the above mentioned causes, but must be due in a large measure to toxin-like substances which are absorbed into the circulation. Perhaps this is because of a lowered resistance of intestinal epithelium,⁴⁵ which is supposed to neutralize this histamin normally; or it may be due to the introduction with spoiled foods of a putrefactive (fecal) type of bacteria which favors the increased formation of histamin to such extent that it will break down the resistance of the epithelium. Schloss⁴⁶ found a histamin-like substance in the blood of infants with acute intestinal intoxication.

Kohn⁴⁷ believes that there is some protein derivative responsible for the toxic symptoms, and Boyd⁴⁸ injected into animals the extracts of the intestinal mucous membrane from infants suffering with acute intestinal intoxication and produced in these animals symptoms resembling the severe toxic conditions in infants. Mitchell and Jonas⁴¹ conclude: "If no toxic symptoms were observed the blood non-protein nitrogen constituents were practically normal. If moderate toxic symptoms were present there usually was a moderate increase of non-protein nitrogen constituents, but if the patient showed distinct evidence of toxic symptoms the blood-urea nitrogen and uric acid usually were decidedly increased over normal, but this increase was neither consistent enough nor great enough to indicate that uremia was a primary cause of the fatal termination."

Van Cleve³⁵ states, "For a reasonable conclusion on the etiology, I believe to quote Davidson* will be sufficient: 'Although there is as yet no absolute proof of the etiology, it would seem probable that infantile diarrhea, except bacillary and amebic dysentery, is not a primary bacterial infection, but that as a result of changes produced by external heat or some other cause, the gastric and duodenal enzymes are reduced. Undigested and unabsorbed food is then fermented by the stool organisms, either in the small or large intestine, into irritating end products which accelerate peristalsis and produce diarrhea.'

'Experiments on dogs have demonstrated that repeated small doses of some of these end products can accomplish these results. The action of the end products is probably in the nature of a chemical irritation rather than a bacterial inflammation and thus the absence of postmortem lesions may be explained.'"

In the examination of the stools from some hundred and twenty five cases** of fermental diarrhea, using the classification of Zahorsky,⁴⁹ there was found to be much evidence of undigested food and bacteria in the stools which were watery in consistency and had a putrid, rancid odor. Very few cells were found such as occur in the dysenteries giving evidence of the cellular exudate of a true enteric infection.

* Davidson, W. G.: *South. Med. Jour.* 17:552 (Aug.) 1924.

** This work was done while assisting Dr. Zahorsky in his private practice during the summer of 1926. Additional work is being done by Dr. Zahorsky which he will report later.

These observations would lend support to the findings of Davidson.

It is a well known fact that the toxins of unknown chemical composition, caused by parenteral infections,⁵⁰ may cause intestinal disturbances in the form of diarrhea. However, even after ruling out the true dysenteries and parenteral infections, there will still be a large group of intestinal dysenteries and parenteral infections, there changed flora in the upper part of the small intestine causing an increased absorption of protein degradation substances, which initiated the sequence of events previously discussed.

The treatment of acidosis must first be directed to the prevention of further production of more acids; second, to replenishing the alkali reserve; third, to the elimination of the acids and their salts; and fourth, to the treatment of the underlying factors, whether they be acute infections, starvation, or organic disease.

(1) Water administration must be the first in line of treatment because of reduced blood volume or desiccation of the blood. If not retained per os it should be given intravenously, or intraperitoneally. Proctoclysis is a great aid and hypodermoclysis may be used on larger children. Ringer's solution or normal saline is used, giving it every six hours.

(2) In non-diabetic ketosis glucose should be given in all cases. This may be given per os (or by nasal catheter), intravenously and intraperitoneally. It should be emphasized that many untoward results may be avoided if 4.7 per cent. to 5 per cent. glucose in normal saline is used, as 4.7 is an isotonic solution thereby lessening the damage to the blood cells. When used in proctoclysis it has been found that 5 per cent. glucose is absorbed more readily because there is not so much gas formation with distention. Two to four ounces of glucose may be given rectally every three hours. Of course the rationale of the glucose treatment is that the oxidation of carbohydrates burns up the incompletely oxidized acids in the system, thus reestablishing a normal state. Most cases clear up immediately on this treatment. If there seems to be lag in the response, insulin may be added directly to the glucose, which aids in the oxidation process.³⁴ When glucose and insulin are used together it is wise to use a 10 per cent. solution of glucose for this will prevent a hypoglycemia from the rapid oxidation of the glucose in the blood

stream. These solutions should always be administered very slowly, and one fiftieth of the body weight of the infant is considered sufficient for a single injection. Epinephrin should be available for hypodermic use should there be a hypoglycemic reaction.

(3) Alkalies occupy an important place in the treatment of acidosis, especially when due to dehydration, in which there is an increase of inorganic acids that must be neutralized. Sodium bicarbonate may be used per os or intravenously, but only in moderate amounts, and it should be carefully watched, for it may have an effect of disturbing the balance between the sodium, calcium, and magnesium ions in the blood, or of producing too much alkali, causing tetany, edema, or even convulsions. Howland and Marriott found that the simplest indication of sufficient alkali administration was a shift in the urinary reaction to normal. It has been suggested by Hecker⁵¹ that it is beneficial to use buffer solutions in the treatment of acidosis, supplying such salts as have been shown by chemical analysis of the whole blood to be deficient during acidosis. He states, "By employing the buffer solutions one can increase the gram content of the solution without increasing the alkalinity of the solution beyond the alkalinity of normal blood." In his solutions he gave sodium bicarbonate, disodium phosphate buffered with monopotassium phosphate to a pH of 7.0.

(4) Blood transfusion carried out with the customary precautions, is certainly indicated in many of the most severe cases. It builds up the blood content, supplies fresh antibodies, supplies the necessary blood salts and hemoglobin.

(5) However transfusions alone cannot build up all the necessary tissue needed for repair, and food is the most important therapy after the initial symptoms are relieved. After a short period of rest (6 to 12 hrs.) thick cereal pastes are started in the treatment of acidosis, as they are best retained and contain a high percentage of carbohydrates. These are usually sweetened by maltose-dextrose compounds or sucrose. Gradually the infant may be returned to milk, but the cow's milk, while slightly acid when first drawn,⁵² has such a high buffer action that it is necessary to add acid to it to neutralize the buffer solution sufficiently in order that the small amount of acid in the baby's stomach, especially during fever stages, shall be able to have its full function.

Acid milk for infant feeding has been known for a long time, but it is only in the very last few years that feeding of acidified milks has received the attention it well merits. It has been employed in Holland for feeding babies as well as calves, pigs, and chickens. It was advocated by Campert in an article written in 1770. Again advocated in 1865 by Ballot, but it was the work of Marriott which rationalized it as an infant food and proved its worth on a large number of cases. Lactic acid milk was used by him, either the product of fermentation or by directly adding lactic acid to the milk. Faber⁵³ introduced the practice of using hydrochloric acid in cow's milk. His choice of this acid was because of its physiological presence and because of its suitability for enzyme action. Protein milk owes its efficiency in part to its acid content. Hess and Matzner⁵⁴ state, "Finkelstein's protein milk which in our experience has proved a veritable boon in the feeding of atrophic infants, has a pH as low as 4.53." This milk has been advocated in all cases of diarrhea. Dunham⁵⁵ uses acetic acid in milk and gets it from vinegar.

All the above mentioned modifications of milk are very suitable in the treatment of acidosis, but there is still further modification which is of exceptional value, for it combines not only the necessary acid, but also the vitamin content that is so important for the infant, especially following a severe illness.⁵⁶ This citric acid milk has a very delightful taste in comparison with some of the above mentioned, and it is very easily prepared by the addition of lemon juice direct to the milk. Citric acid is completely oxidized when entering the body in small amounts, leaving the inorganic bases free to correct the acidotic condition. When fed to experimental animals it tends to stimulate the oxidizing power, diminishing the excretion of other organic acids present.²³

(6) About the only conditions requiring further medication are gastric and intestinal distention together with nausea, vomiting and restlessness. For the first the use of enemata with a mild saline laxative is best. Sedatives and paragoric will be found helpful to relieve vomiting and restlessness.

SUMMARY

1. Acidosis is defined as a diminution of the alkali reserve of the body. It may or

may not involve a decrease in the pH of the blood.

2. Acidosis is a general term which includes production of abnormal acids (ketones), failure of the kidney to excrete acids and acid radicles normally produced from the ingestion of foods (inorganic acids), or excessive loss of base from the body as in kidney disease.

3. Ketosis may be considered as a symptom and not as an added or complicating factor in the disease. It may be due to insufficient food intake, increased metabolism of stored carbohydrates and disturbance of intermediary metabolism of carbohydrates within the liver.

4. Alkalosis may become an important clinical factor and may be due to excess administration of alkalis, excess loss of acid from the body, or a decrease in carbonic acid content of the blood.

5. Hyperpnea without cyanosis is the only reliable and pathognomic clinical symptom of acidosis.

6. The newborn baby has a tendency to acidosis.

7. There are three theories as to the cause of infantile diarrheas of the unknown or noninfectious nature, namely, decrease in acidity of the stomach and duodenum, anhydremia, and production of a definite toxin from the intermediary products in the bacterial action on the protein in the intestine.

8. Treatment of acidosis must be first directed to the prevention of a further production of more acids; second, to the replenishing of alkali reserve; third, to the elimination of the acids and their salts; and fourth, to the treatment of the underlying factors, whether they be acute infections, starvation or organic disease.

9. Citric acid milk is advocated as a corrective in deficient gastric acidity because of its vitamin content and its stimulating power to oxidation processes within the body.

Lutheran Hospital.

BIBLIOGRAPHY

- Levine, Victor E.: Modern Aspects of Nutrition: The Pathology of Malnutrition; No. 8 Food with Reference to the Acid-Base Equilibrium, Nebraska M. J. **10**:379 (Oct.) 1925.
- Wilson, D. Wright: Neutrality Regulation in the body, *Physiol. Rev.* **3**:295 (July) 1923.
- McClendon, J. L.; Meyersburg, L. Von; Engstrand, O. J., and King, Frances: Effect of Diet on the Alkali Reserve of the Blood, *J. Biol. Chem.* **38**:539, 1919.
- Blatherwick, N. R.: Neutrality Regulation in Cattle, *J. Biol. Chem.* **42**:517, 1920.
- Henderson, Yandell: Physiological Regulation of the Acid-Base Balance of the Blood and Some Related Functions, *Physiol. Rev.* **5**:131, 1925.
- Levine, Victor E.: Modern Aspects of Nutrition: The Pathology of Malnutrition; No. 16 Some Recent Recent Viewpoints with Reference to the Treatment of Acidosis, Nebraska M. J. **11**:349, 1926.
- Sherman, O. H.; Pucher, G. W., and Lohnes, H. R.: Blood Chemistry of the New Born, *Am. J. Dis. Child.* **30**:496, 1925.
- Chittenden, R. H.: The Nutrition of Man, New York, F. A. Stokes Company, 1907.
- Greenwald, I. A.: Normal Diet, Endocrinology and Metabolism, Edited by Lewellys F. Barker, New York and London, D. Appleton and Company, 1922.
- Lamb, A. R., and Evvard, J. M.: Acid-Base Balance in Animal Nutrition, *J. Biol. Chem.* **37**:317, 1919.
- Telfer, S. V.: Studies in Calcium and Phosphate Metabolism, *Quart. J. Med.* **20**:1-25, 1926.
- Levine, Victor E.: Modern Aspects of Nutrition: The Pathology of Malnutrition; No. 9 Food with Reference to Acid-Base Equilibrium, Nebraska M. J. **10**:336, 1925.
- Davis, H. W.; Holdane, J. B. S., and Kenney, E. L.: Experiments on the Regulation of the Blood's Alkalinity, *J. Physiol.* **56**:269, 1922.
- Dale, H. H., and Evans, C. L.: Effect on the Circulation of Changes in the Carbon Dioxide Content of the Blood, *J. Physiol.* **56**:125, 1922.
- Mayers, V. C., and Booher, L. E.: Observations on Excretion of an Acid Urine in Alkalosis, *Proc. Soc. Exper. Biol. & Med.* **22**:512, 1925.
- Henderson, L. J. et al.: Blood as a Physiological System, *J. Biol. Chem.* **59**:379, 1924.
- Koch, C. A.: Chemistry of Acidosis, *Arch. Pediat.* **43**:571 (Sept.) 1926.
- Rous, Peyton; Drury, D. R., and Beattie, W. W.: The Relative Reaction within Living Mammalian Tissue, *J. Exper. Med.* **45**:23, 1927.
- Howland, J. H., and Marriott, W. M.: A Discussion of Acidosis with Special Reference to Diseases of Children, *Bull. Johns Hopkins Hosp.* **27**:63, 1916.
- Grigoloff, S.: Local Acidosis in Primary Healing Wounds, *Z. f. Chirurg.* **51**:2297, 1924.
- Buckman, T. E., and Edwards, H. T.: The Mechanism of Chlorine Ion Transferred from Plasma to Corpuscles with Increased CO₂ Tension, *Trans. Am. Soc. Clin. Inves.* 1922, p. 32.
- Gamble, J. L., and Ross, G. S.: Studies of Tetany, II, *Am. J. Dis. Child.* **25**:410, 1923.
- Woods, E. B.: Citric Acid Metabolism, *Am. J. Physiol.* **79**:321, 1927.
- Blatherwick, N. R.: Role of Foods in Relation to Composition of Urine, *J. Biol. Chem.* **11**:323, 1912.
- Austin, J. Harold, and Cullen, Glenn E.: Hydrogen Ion Concentration of the Blood in Health and Disease, *Medicine* **4**:275, 1925.
- Henderson, Yandell: Physiological Regulation of the Acid-Base Balance of the Blood, *Physiol. Rev.* **5**:131 (Apr.) 1925.
- Ramos, S.: Role of Water in Acid-Base Balance, *B. l. Acad. de med., Paris*, **95**:399 (Apr.) 1926.
- Delater, G., and Hugel, R.: Post Operative Acidosis, *Presse Med.* **34**:1217 (Sept.) 1926.
- Jeans, P. C., and Tallerman, K. H.: Post Operative Acidosis in Children, *Brit. J. Child. Dis.* **21**:268, 1924.
- Wilson, J. R.; Levine, S. Z., and Rivkin, Helen: Ketosis and Respiratory Exchange in Children, *Am. J. Dis. Child.* **31**:335 (March) 1926.
- Hess, Julius H.: Acidosis and Alkalosis in Infancy, *International Clinics* **3**:118 (Sept.) 1926.
- Tallerman, Kenneth H.: Ketosis Accompanying Infections in Children, *Am. J. Dis. Child.* **30**:476, 1925.
- Tallerman, Kenneth H.: Ketosis Accompanying Infections in Children, *Am. J. Dis. Child.* **31**:513, 1926.
- Leithauser, D. J.: The Clinical Significance of Acidosis and Alkalosis, *J. Michigan M. Soc.* **24**:291, 1925.
- Van Cleve, John D.: Etiology of Infantile Diarrhea, *J. Missouri M. A.* **24**:6 (Jan.) 1927.
- Van Slyke, D. D.: Carbon Dioxide Carriers of the Blood, *Physiol. Rev.* **1**:141, 1921.
- Nash, T. P. Jr., and Benedict, S. R.: Ammonia Content of the Blood and its Bearing on Mechanism of Acid Neutralization in Animal Organism, *J. Biol. Chem.* **48**:463 (Oct.) 1921.
- Moro, E.: The Endogenous Infections of the Duodenum, *Jahrb. f. Kinderh.* **84**:1, 1916.
- Arnold, Loyd: Diarrhea in Infants, *Arch. Pediat.* **44**:71 (Feb.) 1927.
- Davidson, Wilhur C.: Gastric Analysis in Normal Infants and in the Convalescent from Diarrhea, *Am. J. Dis. Child.* **30**:23, 1925.
- Mitchell, A. G., and Jonas, Leon: Dehydration in the Nutritional Disorders of Infancy, *Am. J. M. Sc.* **169**:236, 1925.
- Marriott, W. M.: Anhydremia, *Physiol. Rev.* **3**:275, 1923.
- Marriott, W. M.: Some Phases of the Pathology of Nutrition in Infancy, *Am. J. Dis. Child.* **20**:461 (Dec.) 1920.
- Mellamby, E.: An Experimental Investigation on Diarrhea and Vomiting in Children, *Quart. J. Med.* **9**:165, 1915.
- Morse, Withrow: Applied Bio-Chemistry, Philadelphia, W. B. Saunders Company, 1927.

46. Schloss, O. M.: A Substance Toxic to Guinea Pigs in the Blood of Infants with Intestinal Intoxication, *Proc. Soc. Exper. Biol. & Med.* **18**:101, 1921.
47. Kohn, J. L.: Observations on the Reaction of the Blood of Infants with Acute Intestinal Intoxication, *Proc. Soc. Exper. Biol. & Med.* **18**:323, 1922.
48. Boyd, G. L.: Etiology of Acute Intestinal Intoxication in Infants, *Arch. Int. Med.* **31**:297, 1923.
49. Zahorsky, John: Evidence that Summer Diarrhea is an Infectious Enteritis, *Am. J. Dis. Child.* **15**:413, 1918.
50. Alden, Arthur M.: Gastro-Intestinal Disturbances in Infants as a Result of Streptococcus Infections in Ears, *South. M. J.* **19**:360, 1926.
51. Hecker, F. A.: A Preliminary Report on the Employment of the Buffer Solutions in Acid Intoxications, *J. Iowa M. Soc.* **15**:446, 1925.
52. Levine, Victor E.: Modern Aspects of Nutrition: The Pathology of Malnutrition; No. 10 Acid-Base Equilibrium with Reference to Pediatrics, Part II, *Nebraska M. J.* **11**:23, 1926.
53. Faber, H. K.: Hydrochloric Acid Milk in Infant Feeding, *Am. J. Dis. Child.* **26**:401, 1923.
54. Hess, A. F., and Matzner, M. J.: The Value of Milk Acidified with Lemon Juice, *J.A.M.A.* **82**:1604, 1924.
55. Dunham, B. S.: Acidification of Milk with Vinegar in Infant Feeding, *Am. J. Dis. Child.* **29**:200, 1925.
56. Hodge, Albert H.: Carbohydrates in Non-Diabetic Acidosis, *Virginia M. Monthly* **52**:702 (Dec.) 1920.

BENIGN PROSTATIC HYPERTROPHY*

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Prostatic hypertrophy, like most of the common surgical conditions, has been widely written about during the past few years. It is not within the scope of this paper to discuss this subject in all its phases but to limit our discussion to those points which in our opinion are the most interesting and important.

Let us review briefly the important points in the anatomy of the prostate: It is a partly glandular, partly muscular organ, of a dark reddish brown color, which surrounds the beginning of the urethra in the male. It lies within the pelvis, behind the pubis and is enclosed by a dense sheath derived from the pelvic fascia. Through the various connections of this sheath the prostate is firmly fixed within the pelvic cavity. The ejaculatory ducts traverse the prostate in their course downwards and forwards to join the urethra. The size of the prostate varies considerably in different individuals, but its transverse or longitudinal diameter is usually from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches, its anteroposterior diameter about $\frac{3}{4}$ inch and its vertical diameter about $1\frac{1}{4}$ inches.

With the body erect, the base of the prostate lies in a horizontal plane at the level of the middle of the symphysis pubis, while its apex lies one-half inch behind and below the suprapubic angle. It follows, therefore, that the vesical orifice and prostate are within

easy reach of the finger introduced through a suprapubic cystotomy incision.

The prostate substance is made up of branching tubular glands, supported by a fibromuscular stroma. The gland tissue is most abundant in the posterior lateral aspects of the organ.

Etiology. In this paper we propose to discuss only the etiology and pathology of benign hypertrophy. Of course some of the fundamental principles in the surgical management of prostatic hypertrophy apply to all types of pathology.

Benign prostatic hypertrophy is associated with senescence and probably belongs to the changes associated with genital involution, but it is not definitely known what initiates the hyperplasia. Many theories have been advanced but only a few of them will be mentioned here: Excessive venery and sexual repression where the desire is present. As the hypertrophy is confined largely to the suburethral glands, it has been suggested that this is a compensatory phenomenon for the usual senile atrophy of the prostate that occurs in the majority of men, as in the atrophy of other organs. The majority of cases occur in married men.

Benign prostatic hypertrophy occurs in dogs; Goodpasture¹ has shown from his studies on dogs that the process here is the same as in humans. Investigators have been unable to demonstrate a definite relation between the hypertrophy and inflammatory process from previous infections. Gonorrhea, which was formerly considered to be a frequent cause and among the laity today is thought to be the commonest cause, is not responsible.

Pfeister,² writing on the geographical distribution of prostatic hypertrophy, says: "Prostatic hypertrophy occurs in most countries very often, in some rarely, and in others, not at all. It is much rarer in Egypt and Japan than in Europe and rarest in the Philippines. It occurs seldom in southern China and India. Frequently cases are found in the Caucasian race; less frequently in the Semitic and Mongolian races and particularly seldom in the Negro. The disease is almost never observed in a home for superannuated men near Hamburg. It is often noted in Tyrol, where goiter is endemic. Gonorrhea is exceedingly prevalent in countries in which prostatic hypertrophy is rare."

Pathology. The conception of prostatic hypertrophy as described by Motz and Perearnau³ is generally accepted by urologists at the present time: that is, all hypertrophies of the prostate arise in the mucosal or suburethral

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

glands. It always begins in the mucosal or inner glands, those in close contact with the urethra. The surrounding prostatic tissue is normal except for changes due to pressure. The prostatic glands proper empty into the posterior portions of the urethra; they are thus spread out over the posterior and lateral aspects of the hypertrophied masses of suburethral glands, forming the posterior lamella which has been misnamed the posterior lobe. The posterior lamella is the entire normal prostate thinned out by pressure and growth of the hypertrophied masses. After a time this tissue undergoes fibrosis, thus establishing a line of cleavage. The prostatic glands in the posterior lamella may undergo hypertrophy following a prostatectomy and the gland return practically to normal.

The forms, locations and mechanics of the various types of growth, we shall not describe, but it should be remembered that the suburethral glands which undergo hypertrophy are always above the verumontanum and as the ejaculatory ducts pass through the posterior lamella, these two structures can and should always be avoided during operation.

The microscopical pictures we shall not discuss, except to say that benign hypertrophy very often complicates carcinoma arising in the posterior lamella. The symptoms and diagnosis of prostatic hypertrophy need not be mentioned here.

Mortality. The general mortality of prostatectomy today averages about 2 per cent. According to Young,⁴ the average mortality twenty years ago was 20 per cent. Several authors have in recent years reported a large number of consecutive cases with only an occasional death. Davis⁵ reports a series of 107 cases with only one death. Young⁶ reported one series of 198 cases without a death. We believe no other branch of surgery has shown such striking results in the reduction of the postoperative mortality rate during the past few years as has urology in prostatic surgery.

The observations presented in this paper are based on a study of records and personal observation during the past three years of 125 cases in the private practice of the senior author. There have been five deaths, a mortality of 4 per cent. The causes of death in these five cases were as follows:

1. Death from shock 24 hours after a suprapubic cystotomy. The patient had been suffering from almost complete retention and severe hematuria for about ten days; finally family consent for operation was given as a last resort.

2. Angina pectoris. The patient had had

several attacks prior to operation. On the second postoperative day, only a few minutes before the fatal attack, the patient had told the nurse that he felt like getting up.

3. Diabetes. This was before the day of insulin and patient died 48 hours following the prostatectomy.

4. Uremia. On the fifth day following the prostatectomy the patient, who had been up and about, had a chill followed by high fever. The urine contained a large amount of pus and there was tenderness over both kidney regions. Anuria developed and the patient died of uremia three days following the chill.

5. Pulmonary embolism. This occurred twelve days after the suprapubic cystotomy; the patient lived 14 days following the embolism and died from gradual myocardial failure.

All the operations have been done by the suprapubic route and, with the exception of six cases, have been done by the two stage method.

The choice of the method employed depends upon the operator's experience and the selection of the cases. Equally good results are obtained in both the perineal and the suprapubic methods. Hunt in discussing the choice of operation, states: "An unprejudiced analysis of the ultimate functional results and the mortality rates following both methods of operation by those experienced in them, shows that these indices of merit can no longer be used to discredit one or the other method."

Preoperative Treatment. Rest in the selected cases for two or three days prior to the operation allays the patient's nervous condition and affords time for a thorough study of the cardiovascular and renal systems. Fluids should be pushed, as most of the patients drink very little water because of the disturbing frequency from which they suffer.

Urinary Antiseptics. If possible, without causing too much disturbance of the gastro-intestinal tract, we usually put the patient on some form of urinary antiseptic: sodium acid phosphate and urotropin 10 grains each, four times a day, we find to be generally the most satisfactory. Acriflavin 1½ grs. twice a day when the urine is alkaline produces good results; hexylresorcinol, in those cases in which the urine shows gram positive cocci, has proven to be quite beneficial. If marked cystitis is present a daily irrigation of the bladder with hot boric or potassium permanganate solution followed by instillation of argyrol, renders the bladder more tolerant to the suprapubic drainage tube. We have all seen the distressing and, in many cases, the unexplained bladder spasm following the institution of drainage.

The myocardium should be carefully watched and digitalis administered in sufficient doses where indicated. We have observed that hypertension cases stand the operation well but the patient with a low blood pressure should be carefully watched for myocardial defects as their resistance is usually low. These patients easily become anuric. Forced fluids, strychnia sulphate, 1/30 gr. t.i.d. per rectum for several days, seem to tone these patients up.

When hypertension is present the patients are put to bed and given a salt free diet for several days before operation. All these patients are given a low purin diet and the intestinal tract thoroughly cleansed before operation.

Anesthetic. Practically all these operations have been done under nitrous oxide anesthesia. A few of the first stage operations were done with local infiltration of the abdominal wall. Recently our anesthetist has employed ethylene gas in some cases where the patient did not relax sufficiently with nitrous oxide. We have never observed any untoward results from gas oxygen and consider it a reliable and safe anesthetic when properly administered.

Caudal and sacral block anesthesia are suitable for perineal work, but they have to be combined with infiltration of the abdominal wall for the suprapubic method, and it has been our experience that infiltration delays the healing process.

With spinal anesthesia we have had no experience and unless some satisfactory means is found for overcoming the fall in blood pressure which occurs, I can easily see where anuria is apt to follow.

Drainage. This we consider one of the most important points in the management of these cases. We employ an angle, double Pezzer tube, size 34 to 38 French. Thorough irrigation of the bladder can thus be accomplished. We have found this tube most satisfactory where cystitis and a great deal of mucous are present. In using these tubes leakage is reduced to a minimum. The patient remains dry and comfortable and because leakage is reduced to a minimum dependable phthalein functional tests can be carried out; a 34 to 38 caliber tube provides ample drainage.

In making the opening in the bladder we always make it as high as possible; this greatly facilitates closure of the fistula. Great care should be exercised in pushing back the peritoneal fold from the surface of the bladder. The degree of postoperative distention is largely dependent on the gentleness with which this fold is pushed back from the bladder. If

the distention is severe enough to produce discomfort, we use enemas and, if necessary, physostigmine hypodermically in full doses; if the patient's blood pressure is low, pituitrin is given as it raises blood pressure, thereby aiding in kidney secretion.

It is of course a well known fact that blood chemistry studies on these patients show a retention of nitrogenous products in varying degrees and in our experience it requires about ten to fourteen days of drainage for these values to reach a satisfactory level; during this time the phthalein output gradually increases.

Complete hemostasis of the suprapubic wound at the time of operation will render infection less likely. We always gently insert a small cigarette drain into the space of Retzius, gently inserted so as not to separate the bladder from its anterior attachments. We close the fascia with interrupted sutures of No. 2 and No. 3 chromic catgut and get the patients up the second and third day without fear of herniation.

Many of these patients develop an aversion to water during the preoperative and drainage periods. Glucose candy is then provided as it furnishes a readily oxidizable sugar and produces thirst.

Second stage operation. The edges of the suprapubic incision are freshened, and the skin loosened. The opening is enlarged as little as possible and then only downwards, as the peritoneum can be very easily opened at this time. With ethylene gas, the abdominal muscles are relaxed sufficiently so that enucleation is easily carried out. Many times, after the gland has been enucleated and free in the bladder, the opening has to be enlarged to permit of its removal.

Hemostasis. At this stage is the second most important point in the care of these cases. Complete hemostasis is secured first, by gentleness and care in the enucleation, and second, by the use of some mechanical measure. We employ a gauze pack pushed tightly into the gland cavity with the finger. The pack is removed gradually during the next 12 or 24 hours. I have never seen an alarming hemorrhage. The pack, of course, causes some discomfort, inducing a more or less constant desire to void. This annoying symptom is easily controlled by dram doses of tincture of hyoscyamus every three hours, or if this does not suffice, morphin in small doses.

The Hagner and Pilcher bags we have used occasionally but not with the success of the gauze pack. The bag designed by Barry we believe is far superior to the Hagner or Pil-

cher. After deflation it can be left in place without causing any more discomfort than an indwelling catheter. If bleeding occurs, it can be reinflated. It is withdrawn through the urethra and not through the suprapubic incision as are the other bags. The materials necessary for its construction are a 24 F. catheter and a piece of thin rubber tubing, such as is used for making a cigarette drain. A single, angle, Pezzer tube is inserted into the bladder after the pack is removed and as the wound closes smaller tubes are inserted and the patient is kept dry. Bladder irrigations are resumed on the fourth or fifth day.

Epididymitis. This complication occurred in 12 per cent. of our cases. It may occur before operation, following repeated catheterizations; it may occur soon after operation or several weeks afterwards. Support, ice bags, and the intramuscular injection of foreign protein usually suffice. We have had one case which went on to suppuration. We delay as long as possible after the prostatectomy, the passage of a sound or the use of an indwelling catheter to facilitate closure of the fistula. It has been our observation that epididymitis usually follows either of these procedures.

Double ligation and resection of the vasa preoperatively, has, in the hands of some men, reduced the incidence of epididymitis from an average of 20 per cent. to 4 per cent. We have not practiced this procedure, but expect to in the future.

SUMMARY

Management of prostatic surgical cases during the past few years, as has been practiced by urologists, has resulted in lowering the mortality rate so that it compares favorably with that for appendectomy and herniotomy, the latter operation usually being performed on young individuals. With the average age of most any group presenting themselves for prostatectomy being 70 years, and an average mortality of 2 per cent., we feel that we can, unhesitatingly, recommend this major procedure as a safe operation.

We consider adequate bladder drainage and complete hemostasis as the two chief factors contributing to this low mortality rate.

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REFERENCES

1. Goodpasture: J. M. Research. **38**:127, 1918.
2. Pfeister, E.: Urol. & Cutan. Rev. **27**:737 (Dec.) 1923.
3. Motz and Pearnau: Ann. d. Mal. des Organe Genito-Urinaris. **23**:1521, 1905.
4. Young, Hugh: The Technic of Prostatectomy and its Relation to Mortality, J.A.M.A. **78**:933 (April) 1922.
5. Davis, E.: Perineal Prostatectomy Under Sacral Anesthesia, J.A.M.A. **88**:784 (March 12) 1927.
6. Young, Hugh: Prostatectomy: Preoperative, Operative and Postoperative Treatment, Surg. Gynec. Obst. **36**:589 (May) 1923.

DISCUSSION

DR. CLINTON K. SMITH, Kansas City: I have certainly enjoyed this splendid, practical digest of the situation.

In regard to his mortality statistics, it was not clear to me whether or not he was referring to the statistics of the average urologist or whether he was referring to the statistics over the country as a whole. I believe, if referring to statistics as a whole, he is too conservative. I am of the opinion that the average mortality in prostatectomy as generally practiced is considerably above two per cent. but I do not believe there is any necessity for it. These patients sometimes require preparation over a period of several months. I had a man eighty years old recently whom I studied and prepared for over two months before I removed his prostate. He was very feeble and was brought in on a stretcher, yet I have never had a happier result.

To my mind Dr. Ewell did not stress as much as its importance warrants, a careful study of the circulatory system. I have had more difficulty with the heart action than any other one thing. I think a careful observation of the blood pressure before operation gives us a very accurate idea of the patient's heart action. I use a graphic chart and observe the blood pressure daily. This we notice: that as soon as drainage of the bladder is begun, we get a drop in the blood pressure. After drainage is maintained for a certain period, the blood pressure has a rebound. Until it stabilizes, I do not believe our patient has reached the maximum point of safety.

In regard to the effect of this bladder drainage. I have had more difficulty with suprapubic cystostomy than with the prostatectomy. If the patient goes through the cystostomy without any trouble, I forget about the prostatectomy. As a rule, I prefer to put the patient on a retention catheter for a few days, watch his blood pressure, his tongue and his general condition, and rather break the shock of doing the cystostomy in this way, if I am going to do a cystostomy at all. During the past two years I have been doing a vas resection on every patient and I have not had any epididymitis. It is a simple thing to do; there is practically no reaction.

DR. NEIL S. MOORE, St. Louis: Dr. Ewell's paper was very interesting and he brought out some excellent points which I hope to touch on only briefly.

My technic and routine way of handling these patients does not differ a great deal from that which Dr. Ewell, Dr. McCallum and Dr. Smith have outlined. Still I want to come to the defense of the indwelling urethral catheter after the second stage, because I think it will drain away considerable pus that remains in the prostatic cavity and in the lower part of the bladder that can hardly be aspirated through a suprapubic tube or be drained in any other way than with irrigation through the urethra, or through a catheter.

There is a great deal in the way a catheter is introduced. I feel if one simply takes a soft rubber catheter and forces it through the urethra at random, there is bound to be trouble. But if one will use a double curved, so-called prostatic stylet and introduce the catheter in a way by putting the finger on the perineum and elevating the distal end of the catheter over the internal sphincter, he will cause very little trouble. Our experience has been that our patients heal faster and leave the hospital earlier if we use an indwelling catheter. I will admit that the chances for epididymitis are probably a little greater, but they look better and do better after drainage through a retained catheter.

I am aware that the procedure is not so popular over the country in general.

In the April, 1927, issue of *THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION*, I published some of our statistics and outlined my technic for carrying out prostatectomy from beginning to end. We had somewhere near 100 cases and reported seven deaths. That included carcinomatous prostates, those operated in emergency in some of the clinical cases, and also included mortality following the ordinary suprapubic cystotomy, or first stage prostatectomy.

I believe Davis's report does not include suprapubic cystotomy. He seems to think that they should not be included in prostatic surgery. We felt that our results were worth reporting. That paper was written especially for the general practitioner, since we have had a number of patients come to us from over the country, as every man doing urology has, who say that their physician or some of their neighbors told them, or they had taken it upon themselves to assume, that they were too old to be operated. Our cases have ranged in age to ninety years. Unfortunately the one that was ninety years was one of the deaths that we reported.

Two of our deaths were due to cerebral hemorrhage, one a physician about ten days after the second stage. The other was a man up and walking about and just ready to leave the hospital, a very stout heavy man, who had cerebral hemorrhage and died within about an hour. Two of them were suprapubic cystotomies, one a clinic case that was intoxicated at the time of operation; two were carcinomatous cases, and I feel that one of them just died from general infection.

As I said, we thought that our statistics were worth reporting, and we felt very good about them. However, about the time that paper was published we had the shock of our lives in that we had just done two suprapubic cystotomies under local anesthesia (that is the way we do all of our suprapubic cystotomies) and one of them developed an ileus which required a great deal of time and hard work to relieve, but which we accomplished, and in the course of our work on him he had become quite dehydrated. The other man, seventy-eight years old and a bad risk, had been getting glucose solution. We decided to inject a 10 per cent. glucose solution intravenously followed with just enough insulin to counteract any excess glucose. I was not present at the time the solution was administered but a careful check revealed no error in technic, except it is possible that it was given a little too rapidly. Anyway, those two cases had severe reactions and died in direct relation to the time of receiving the injections about ten hours afterward.

I simply want to report those two cases and the two to follow, as I do not expect to report them in any other way.

Another case, in which we feel the results somewhat offset the bad results of the two sudden deaths, was a man, sixty-two years old, who had been in another hospital and pronounced a hazardous surgical risk. They had inserted a urethral catheter and sent him home. He had become quite discouraged and his doctor referred him to me. At the time we examined him he had, as we determined, first of all a simple hypertrophy of the prostate with complete urinary retention. His blood chemistry was very high, and his phthalein output very low; there was pus in abundance in the urine; the blood pressure was moderate, but there was some arteriosclerosis.

At the time he entered the N. P. N., instead of being in the neighborhood of thirty or forty milli-

grams per hundred cc., was 150; uric acid, instead of being in the neighborhood of two and a half to four, was eight and eight-tenths; his red blood count was 2,450,000, hemoglobin forty-five per cent.; the phthalein output was never over seven per cent. for two hours. It was necessary to work with him for quite a while. We did a suprapubic under local, went ahead and did two blood transfusions which did not increase the hemoglobin but did decrease the nitrogen retention, and we finally operated under ethylene anesthesia with a five and five-tenths uric acid and seventy-five milligrams of N.P.N. per hundred cc. of blood. The prostate was removed and the cavity packed with gauze. The man left the hospital at the end of three weeks on his own accord, not absolutely at our suggestion because the suprapubic wound had not completely healed. He has since reported satisfactory recovery.

Another interesting case which was merely referred to in the paper was that of a prostate weighing 300 grams. Dr. Smith witnessed part of the operation. This man progressed beautifully and was about healed at the end of two weeks when he developed a secondary hemorrhage. The bladder was very much distended and it was necessary to reopen the bladder without any anesthetic, eliminate the clots, pack, do a blood transfusion to save life. Progress was then uneventful and he has returned to his home near Cape Girardeau.

DR. GEORGE H. EWELL, Kansas City, in closing: In regard to the indwelling catheter, we think that we can avoid the shock of this by using these tubes; we can make a water-tight joint and we can decompress. This is a double tube with a little irrigating tube running down the side. It is not too large a tube and yet it is large enough. Use a 36 or a 38—never any larger than that, because when you go to the big tubes you get necrosis of the bladder wall and abdominal tissue wall. A 34 tube is large enough. With this umbrella type of tube you can make a water-tight joint and you can decompress that bladder as gradually as you want to. I had finished writing my paper before the paper by Dr. Moore in *THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION* came out. I immediately recognized the similarity between the two papers.

In regard to the statistics of mortality, there is a general average of two per cent. mortality among the urologists. That was studied by Davis. We had five deaths, or four per cent.; Davis had one death in 107 cases; that is a half of one per cent. Adding our four per cent. and his half of one per cent. that immediately drops it down. If you take Young's series of 198 cases without a single death, that lowers the mortality. I think the average mortality among urologists the country over is approximately two per cent.

There is an old drug that many of you older surgeons are probably familiar with and that some of the younger ones have only discovered by reading in the books. For postoperative ileus there is nothing that will beat it. That is physostigmine. I give patients with postoperative distention physostigmine hypodermatically. I begin with 1/30 of a grain, and in a half hour if there is no result I give 1/20 of a grain. I feel no hesitancy in giving 1/10 of a grain hypodermatically. It will produce a long, gradual intestinal peristalsis. You will very occasionally get somewhat of a depressing effect from it, but that is rare. Pituitrin is a fine drug for those cases of ileus, particularly where the blood pressure is low.

Like Dr. Moore, I had finished this paper when we had another surprise. We had a man on whom we had done a prostatectomy. He was getting along beautifully; the wound was practically closed. On the seventh day after the operation he suddenly complained of some tightness in his chest and began to cough some bloody sputum. He had had just a trifle of a cold the day before. He promptly proceeded to die with pneumonia. I shall have to rewrite the paper and add that death to the list.

As Dr. McCallum says, there are two or three deaths in that list that are unusual—the angina pectoris, the case of diabetes. The doctor who had the case in charge, a medical man, said that the blood sugar was all right, and told the doctor if the man was in good condition to operate. He sort of talked Dr. McCallum into operating. He operated, and the man died of diabetes. We are sure that he was not in condition to operate and that his blood sugar was not all right, or in all probability he would have survived.

CHRONIC CERVICITIS*

LEE DORSETT, M.D.

ST. LOUIS

There is still a lack of unanimity in the diagnosis and treatment of inflammatory diseases of the cervix in spite of the work of Sturndorf, Curtis and Matthews, whose articles have either not been read or their work not appreciated. Through the work of these men we have learned that the primary cause of cervical leucorrhea is an infection of the cervical mucosa, which sooner or later produces cervicitis, and furthermore may cause parametritis, metritis, salpingitis and ovaritis.

The cervical canal is only a passive communicating channel between the vagina and the uterus, but the cervical mucosa is very susceptible to infection while the endometrium is practically immune (Curtis). The most common organisms found in the cervix are the gonococcus, staphylococcus, streptococcus, pneumococcus, and colon bacillus and oftentimes a combination of these bacteria which produces the so-called "mixed infection."

The inflammatory reaction in the cervix caused by these organisms is never limited to the mucosa or endocervix, but extends as far as the portio or to the formation of nabothian cysts when the gland ducts become obstructed, and to the formation of an ectropion (a protrusion of the cervical mucosa upon the vaginal portion of the cervix). An ectropion while somewhat similar to the so-called cervical erosion, must not be confused with it, the latter being a desquamation of the squamous cell epithelium of the cervix. The ectropion may be caused either by a chronic inflammatory process or by a cervical laceration

and an eversion of the cervical lips to which is added an infection. When infected the cervical mucosa becomes swollen and everted, while the mucosa of the portio about the external os presents a circumscribed area of granular proliferation. The columnar epithelium covering the mucosa of the cervical canal pushes itself out upon the vaginal aspect of the cervical rim and replaces the normal stratified epithelium. The congestion progresses and a hypersecretion of mucous follows, and ultimately a hyperplasia and a hypertrophy of the cervical connective tissue develops. The ducts of the glands become occluded and cyst formation develops, increasing the bulk of the cervix and greatly interfering with the circulation and muscular contraction of the cervix and uterus.

The most common symptom of chronic cervicitis is leucorrhea and it is generally for this symptom that the patient first presents herself for treatment. Leucorrhea is an extremely common condition in pregnant women, but it is more often due to the marked hyperemia present than to infection of the cervix.

Backache is often present in cases of chronic cervicitis. I have seen several cases upon which operation had been performed for a retroverted uterus that was supposed to have caused the backache when really the trouble was caused by a hypertrophied cervix with a bilateral laceration and chronic cervicitis which had been entirely overlooked.

As before stated, an infection of the endometrium is rather rare. The chief source of a leucorrheal discharge is a chronically infected cervix and this shows how useless it is to do a curettement for a so-called endometritis.

I cannot agree with some of my surgical friends that the cervix should be removed in every case of hysterectomy. I have seen too many vaginal hernias, and also fatalities from hemorrhage and peritonitis, following complete hysterectomy that I doubt the wisdom of such a hard and fast rule in my work. I will admit, however, that a chronically infected cervix if not removed may be the source of a persistent leucorrhea and, in very rare cases, carcinoma. The chronic cervicitis can be easily taken care of however if properly treated either before or after the supravaginal hysterectomy.

When cervicitis causes backache this symptom is due to a cellulitis of the uterosacral ligaments and to a circulatory stasis of the uterus. This congestion causes a heavy, tender uterus that may become retroverted, subinvolved or develop a chronic metritis, and

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

thus give rise to a dragging sensation in the back and pelvis.

Sterility may be caused by an infected cervix, the spermatozoa being unable to pass through the pus and viscid secretion in the canal. Sterility may also be caused by stenosis or partial stenosis of the cervical canal. I have on record a number of such cases that have become pregnant after the cervical lacerations and infections have been taken care of.

Menorrhagia or metrorrhagia, or both, may be present in these cases due to a chronic metritis or a subinvolution produced by the cervicitis.

Cervical lacerations are inevitable; they occur in every case of labor and vary from a small nick in the cervical mucosa to a deep and extensive laceration through the cervix. The failure of union of cervical lacerations is due to an eversion of the cervical mucosa; to this is added infection and subsequent inflammatory change in the body of the uterus and the cervical canal.

Sturmdorf speaks of the cervix as "the tonsil of the pelvis." Rosenow states that the infected cervix is a possible agent in the production of systemic infections; and Moench states he has produced arthritis in animals by inoculations with serum from cervical discharges. Longstreth reports fifty cases of nervous and mental disorders that were benefited by the eradication of diseased conditions in the cervix. Watkins, Curtis, and many others disagree with these writers, but I am inclined to agree with them.

Treatment. In mild cases antiseptic douches, local applications and tampons are used, but having tried all of these I have practically discarded them. In those cases where the infection is confined to the canal the application of low grade heat is of benefit, as brought out by Abrams and Vaughan. Where there is a definite cervical laceration present I feel that a trachelorrhaphy is indicated. In cases of very marked cervicitis the Sturmdorf operation is indicated, but considerable judgment should be exercised in regard to this procedure in order to guard against a cervical stenosis following the operation. Curtis has used small doses of radium and reports good results.

In those cases presenting ectropion or erosions I can not too highly recommend the electric wire cautery as recommended by Dickinson. This treatment can be carried out in the office without the use of an anesthetic, and in my hands has produced most excellent results.

1217 Missouri Building.

DISCUSSION

DR. GEORGE KIRBY SIMS, Joplin: I enjoyed the

Doctor's paper, especially with reference to treatment of the cervix. Personally I have seen most excellent results from the operation he has just shown on the slides. He referred to Dr. Curtis' work in Chicago and his treatment of leucorrhea. I have known personally of Dr. Curtis' work and have seen most excellent results accruing therefrom.

Speaking of the office treatment of cervicitis with the cautery, I think in the ordinary case of cervicitis we can get most excellent results from the electric cautery.

DR. LEE DORSETT, St. Louis, in closing: I have begun to realize that the retroverted uterus does not play as important a part in certain pelvic symptoms as we formerly thought. I think that there are many operations done for retroversion that could have been avoided.

The postnatal care is extremely important but neglected in too many cases. I think every woman after having a baby, should be examined four weeks, six weeks, eight weeks, and three months afterward. Then these cervical erosions, ectropions, and mild lacerations can be treated with the cautery and the retroverted uterus can be replaced, a pessary inserted, and the patient be in much better shape to have children in the future.

THE AUTOMATIC BLADDER*

OTHER REFLEXES ASSOCIATED WITH GROSS LESIONS OF THE SPINAL CORD

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One of the perplexing problems resulting from gross lesions of the spinal cord is the disturbance of bladder function. If, as is usually the case, there is retention of urine the question of how to evacuate the bladder with safety to the patient confronts the attending physician. It is certainly not a safe procedure to practice regular mechanical evacuation over a long period of time. Infection of the bladder, ureters and kidneys with perhaps a general septicemia is to be expected.

The bladder is normally supplied with afferent and efferent nerve fibers associated with two centers in the spinal cord. The upper center is in the first and second lumbar, the twelfth and eleventh thoracic segments; the lower is in the second, third and fourth sacral segments.

Three pairs of nerves supply the bladder. The hypogastrics from the inferior mesenteric ganglion the pudics and pelvics from the sacral plexus. All three pairs of nerves contain afferent and efferent fibers, but not in the same proportion. In the hypogastrics, the ratio is approximately one afferent to ten efferent; in the pudic and pelvic nerves, one third are afferent and two thirds efferent.

Because of the small number of afferent

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fibers carrying sensory impulses to the higher nerve centers, the bladder, like other abdominal and thoracic viscera, is insensitive to numerous traumatic and other stimuli, but is sensitive normally to rapid alterations in the tension of its walls. Any rapid increase in the tension of the vesical walls in the intact animal results in reflex changes and motor responses. If the sensation from the bladder is sufficient to reach above the threshold of consciousness, the result is a sense of discomfort in the pelvic regions, but if the stimuli from the bladder are stronger and much above the threshold of appreciated changes, sensations of a painful nature are appreciated by consciousness. This pain, however, is not appreciated as being located in the visceral walls but like all visceral stimuli of a painful nature is referred to somatic parts.

In the case of the urinary bladder, the nature of the conditions resulting in conscious pain determines, to some degree, the location of the pain appreciated by the patient.

Lesions of the mucous membrane of the bladder from cystitis or vesical calculi, lead the patient to complain of pain referred along the superficial distribution of the second, third and fourth sacral nerve roots, chiefly around the anus and the skin over the back of the thighs.

The pain resulting from over distention, prolonged distention, with obstruction at the bladder outlet, and ineffectual muscular contraction, is appreciated as diffused pain, referred to the skin distribution of the eleventh and twelfth thoracic and first and second lumbar nerve roots. The skin over the lower abdomen and ventral surface of thighs may be hypersensitive, and the muscles of the lower abdominal wall develop a protective rigidity.

As stated above, one of the results of grave injury or disease to the spinal cord is in abolition of the power of voluntary micturition.

There are several ways by which urine may be voided by a patient with this condition of bladder disability, depending, to some degree, upon the general condition of the patient and treatment received. In those cases where there is complete retention, if a catheter is not passed for several days, the bladder may become over distended and urine pass away frequently in small quantities; severe cystitis may occur endangering the life of the patient. If cystitis occurs and is long continued, the bladder walls become thickened, contract, and automatic micturition not occur.

General septicemia and pyelitis also interfere with the development of automatic micturition. In all cases of complete retention, a catheter should be passed and the bladder

emptied before it becomes over distended and the urine should not be allowed to subsequently collect in excessive quantities.

If such care is given the bladder that it be not over distended nor become infected after a varying period of time (from a few days to several weeks), retention usually gives way, even in complete transection of the spinal cord, to fitful and occasional evacuation. Even after this condition of spasmodic evacuation develops catheterization should be continued. In favorable cases, in a properly treated bladder, the fitful evacuation may spontaneously be replaced by true automatic micturition. Even then however the bladder contains residual urine which must be removed by catheterization; but later complete automatic activity is established and catheterization may be entirely discontinued.

The time intervening between the onset of the lesion and the automatic emptying of the bladder depends to some degree upon the location of the lesion. If the lesion be in the cervical or upper dorsal levels, the time is much shorter than if it is in the lower dorsal, lumbar or sacral levels. In lesions of the cauda equina it may be many months before urine is passed automatically, or the automatic bladder is fully established.

The physiology of urinary retention after gross cord lesions is first, an inadequate muscular contraction of the visceral wall; second, a contraction and failure of the internal sphincter to relax. It is obvious then, in order that the automatic bladder be established, there must be, through stimulation of the reflex activity, an increase of the expulsive power of the muscles of the bladder wall, also a relaxation of the internal sphincter.

In measuring the activity of the automatic bladder, internal pressure of a high degree should be avoided. When fluid is introduced into the bladder it should not be injected with a syringe, nor should the vessel containing the fluid be raised more than a few inches above the bladder level. If fluid is introduced under pressure there is danger of overcoming the contractile power of the musculature. No bladder, in case of urinary retention, should be irrigated under any considerable amount of pressure. Another thing well worth remembering is this: Any bladder with retention that is discharging even small quantities of urine spasmodically, is attempting to establish automatic micturition.

The following method of determining the functional activity of the bladder, in a case of retention, is that described by Henry Head: "If possible, determine in any given case, when urine was previously evacuated automatically.

A catheter is then passed and amount of urine found in bladder measured."

A burette, graduated in c.c. (4 cms. in diameter) tapering to a narrow neck, commanded by a glass stopcock, is attached directly to the catheter. Into the burette 100 c.c. of sterile warm fluid is poured, the stopcock turned and the fluid permitted to flow through the catheter into the bladder. As soon as a back flow occurs, the burette is detached from the catheter, the penis is held in a horizontal position and the fluid permitted to flow into a flat vessel, held just above the horizontal.

The amount of fluid necessary to stimulate contraction of the musculature and expulsion of the fluid varies from 100 to 600 c.c., being a little in excess usually, to the amount of urine found in the bladder. Upon catheterization and upon repeated injections, it will be found that the amount of fluid necessary to stimulate the automatic evacuation of fluid through the catheter gradually decreases, indicating that with repeated stimulation of the musculature to contraction and expulsion of fluid, without expending any of the force of the contraction to overcome the resistance of a contracted internal sphincter, there is gradually developing in the visceral wall a disposition to respond automatically to a smaller accumulation of urine in the bladder.

It has been noted that during the preparation of the glans penis, by sponging with a sterile solution previous to catheterization, in some cases of retention following gross lesions of the cord, a quantity of urine is evacuated automatically by the distended bladder. This is one method of stimulating the development within the lower cord segments—the so-called mass or spreading. In this general or combined reflex activity the micturition reflexes are stimulated, the visceral walls contract, the internal sphincter relaxes and urine is expelled automatically.

The same results may be obtained by irritating the plantar surfaces of the feet, scratching the inner surfaces of the thighs or the skin of the lower abdomen, deep breathing or giving an enema. In short, the stimulation of any reflex activity below the levels of the spinal cord lesion may result in automatic micturition, if the lesion of the cord is above the lumbar segments. Such results are not obtained if the lesion be in the lumbar or sacral segments, or the cauda equina, although the automatic bladder may and will develop, conditions being favorable, even though the lesion be in these lower levels. While testing the functional activity of the bladder, in those cases having cord lesions above the lumbar seg-

ments, if somatic reflexes be stimulated during the introduction of fluid the quantity of fluid necessary to stimulate automatic expulsion of fluid is much less than if the somatic reflexes be not stimulated. This is true even though the cord be completely transected. If the cord lesion be complete and above the eleventh dorsal segment all conscious sensation from the bladder is abolished. The patient has no knowledge of the distention of the bladder or of the automatic evacuation of urine; but if the lesion is below the second lumbar segment the patient is conscious of discomfort or pain from a distended bladder and conscious of the automatic evacuation of the bladder, but has no voluntary control of the bladder activity. The urine is passed automatically and entirely involuntarily.

In all cases of gross lesions of the spinal cord, the development of a completely functioning automatic bladder is much to be desired. The physician can greatly contribute to its development by the proper injection of fluid into the bladder, regularly repeated. Also, and with even greater safety to the patient, by the systematic stimulation of somatic reflexes with a secondary stimulation of the micturition reflexes.

Excessive sweating is a phenomenon of reflex activity associated with severe cord lesions. The secretion of sweat is a result of functional activity of efferent fibers in the sympathetic nervous system. The sweating centers are located in the spinal cord, between the second thoracic and third lumbar segments. The fibers capable of evoking sweating are in the thoracolumbar outflow.

Excessive sweating following cord lesions results from a stimulation of the sweating centers in the cord below the lesion. It is most strikingly manifest when the lesion is in the lower cervical region. If the lesion be at this level the whole body, including the head and neck, may intermittently be bathed in excessive perspiration. The mass or spreading reflex plays an important part in producing this phenomenon. The injection of fluid in the bladder or in the colon may produce it. Scratching the skin of the abdomen, inner surface of thigh, sole of foot, or in short, any scratch, may result in excessive sweating over all of body, if lesion be above the second thoracic segment of spinal cord, or if below this level and above the third lumbar, the sweating is limited to those skin areas receiving efferent sympathetic fibers from the cord below the level of the cord lesion. Therefore, the upper level of the sweating would locate the lower level of the cord lesion.

THE MASS REFLEX

Sherrington designated the predetermined and orderly movements resulting from the stimulation of any certain part of the body, in the intact animal, as a type reflex. Thus, under normal conditions, stimulating the sole of the foot always results in a flexor reflex. This flexor reflex may not only result in dorsiflexion of the foot, but in flexion at the hip and knee. This stereotyped reflex response to stimulation is indicative that lower reflex mechanisms are under normal central control, but if there is a diffuse outburst of motor energy to stimuli, differing widely in place and kind, it indicates that lower mechanisms are set free from control. Under these conditions scratching the sole of the foot may cause evacuation of the bladder and injection of fluid in the bladder may cause a flexor spasm.

In those cases of severe cord lesion above the lumbar level, scratching the skin of the abdomen, or any part of the lower extremity, may evoke a flexor spasm of the leg on the same side as the stimuli frequently spreading to the opposite side. This atypical and wide-spread reflex response to stimuli is the phenomenon which has been designated as the mass or spreading reflex, and it is due to this phenomenon that we are able by somatic stimulation to evoke automatic micturition, in case of severe cord lesions, with urinary retention, or the patient may beget the same result by deep breathing. Another thing well worth noting is that the mass reflex cannot be evoked if the lesion is not of sufficient degree to interrupt the impulses of reflex control in the lower levels by the higher nerve centers. It therefore follows that somatic stimuli are more effective in causing automatic bladder evacuation in the severe and complete spinal cord lesions.

814 Medical Arts Bldg.

DISCUSSION

DR. H. McCURE YOUNG, St. Louis: There is one point in Dr. Robinson's paper that I should like to stress. That is the avoidance of immediate catheterization just as soon as your patient has a retention or an over distention of the bladder. If your patient has a cord lesion and a residual urine and you once put in a catheter, if he is not already infected he is pretty likely to be infected after you have catheterized him just a few times; maybe once will be enough. I have seen these cases getting along fairly comfortably, persons with tabes for example, and then get a cystitis shortly after catheterization with temperature going up to 105, chills, and all that sort of thing. Such a cystitis is almost impossible to cure. Before putting in a catheter, we wait. I believe it is safe to wait a very considerable length of time. I don't think there is any danger of rupture of the bladder.

In the army when men were injured, at first they were always catheterized; men with spinal injuries were always catheterized. Pretty soon all over France we stopped catheterizing those patients; we let them have a retention with overflow and waited. As long as the urine can get out at all, even though the bladder remains somewhat distended they stand it, and if later there is any recovery of function you get recovery without cystitis.

I have often been puzzled as to why it is that so often in hospitals when patients have to be catheterized, not in connection with cord lesions but after ordinary operations, women after delivery, after gynecological operations, cystitis is such an exceedingly common occurrence, whereas we know that in our offices we can catheterize patients and cystoscope them and infection is very rare from any such source. I believe that the routine of catheterization in hospitals should be corrected. I think the ordinary routine is to let the nurse do it and follow the catheterization with irrigation with a little boric acid solution. I never use boric acid solution on my own cases. I never permit it to be used where the patient has to be catheterized in the hospital. I think something that has a real antiseptic should be used. If it has to be done several times a day, of course it can't be strong. A solution of silver nitrate of a strength of 1/20,000 can be used.

INTRAVENOUS SODIUM CHLORID IN THE TREATMENT OF BROMISM¹

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Drug eruptions of necessity occupy an important position in the careful diagnosis of dermatological conditions. The drugs which produce cutaneous symptoms are legion. In fact it may be said that any drug in sufficient quantities will produce these results. The symptoms vary according to the toxicity of the drug and the reaction of the human organism in its relation to that drug. For example, in some individuals the smallest dose of iodine may produce an eruption while in other persons doses up to 200 or more grains a day have no such effect. The lesions produced by drugs vary in the widest extent. The morphology of drug exanthema varies from erythematous maculae through all the types of papulation, pustulation, carbunculation, vesiculation and bullous formation.

Because of their wide-spread use in epilepsy and nervous disorders and on account of their popularity as headache remedies the bromine compounds play an unusually large part in the production of drug eruptions and unlike most drugs, the eruption produced by a bromide tends to persist for weeks after the drug has been discontinued, especially in children.

1. From the Department of Dermatology, St. Louis University School of Medicine.

The eruption due to a bromid consists most commonly of papulopustules. The most frequent sites are the face, shoulders and the back. The lesions are usually discrete and there is a tendency especially in children toward the formation of red, thickened condylomatoid areas with many points of pulsation. Ulceration sometimes occurs in the centers of these masses and the margins may present a characteristic "worm-eaten" appearance. In babies these lesions are found most frequently upon the lower part of the legs and upon the face.



Fig. 1. Case 1. Fungating bromoderma of anterior surface of legs.

(Fig. 1.) They usually do not disappear immediately after the bromid has been discontinued.

This persistent feature together with the unsightliness and scar formation make the bromid eruption a particularly unpleasant problem with which to deal. In addition to this cutaneous phenomenon, the nervous symptoms due to bromism are disturbing. Investigations have been carried on for some time in the hope of discovering an explanation for the reaction of the tissues to bromin.

It is known that bromin and iodine exist in all body fluids following the ingestion of even small amounts of either drug. This led investigators to believe that the lesions of bromoderma were due to the action of free halogens which caused an irritant reaction in the skin. This belief was further strengthened by the finding of iodine and bromine in the pus of the lesions.

Von Wyss, following Laudenheimer's earlier

work, demonstrated that as bromine was ingested the excretion of chlorides in the urine was at once increased. He further concluded that bromine was not easily excreted by the urine and that there was a constant reabsorption through the gastric and intestinal mucosa, thus accounting for the accumulation in the blood and tissues.

Wile, Wright, and Smith,¹ in 1922, reported a series of investigations in which they were able to show that bromide displaces chloride in the blood. They failed to find bromide in the local lesions nor could they discover any apparent relation between the amount of bromide ingested and the appearance of the eruption. They reported the use of a large amount of chloride for the purpose of displacing the bromide.

In September, 1923, Wile² reported a series of three cases of bromism suffering from mental and cutaneous manifestations. These patients were given intravenous injections of physiologic salt solution in doses of 100 cc. to 500 cc. with resulting rapid improvement in the mental symptoms and a gradual improvement in the cutaneous lesions.

They demonstrated bromine in the urine following the administration of the salt solution, the urine having been free from bromine previous to the injection.

Stevenson³ found that sodium chloride given intravenously or by mouth in sufficient quantities would cause the excretion of bromide in the urine to be accelerated. He sounds a warning which is important; and that is that nephritis is a contraindication to this sort of treatment.

Bechet⁴ reported three cases treated with intravenous injections of physiologic sodium chloride solution and rapid improvement was noted in all of them.

One case, a woman of twenty-two, remained obstinate to the ordinary treatment for eight weeks. In the third case of his series, a boy, age nineteen, had lesions on the face. A marked reaction occurred following an injection of 100 cc. of physiologic sodium chloride solution. The temperature rose to 100° F. and the pulse to 100 within four hours. This was followed the next day by a flare up of the lesions. Forty-eight hours later the symptoms were improved greatly. He stated that this case showed a more rapid improvement than did the other two in which there was no reaction.

REPORT OF CASES

Case 1. Baby M. P., age 4 years, white male, an epileptic. This child had been under treatment for epilepsy at various clinics in the city and had been taking bromide over an extended period of time. He was first seen on Dr. Wm. T. Hyatt's service

at the St. Louis City Dispensary, May 8, 1926. The child was pale and listless, the appetite was poor and there were frequent epileptic seizures. There was a large fungating lesion on the anterior surface of each leg. At this time the bromid was discontinued and luminal substituted. March 10, 1926, 25 cc. of physiologic sodium chlorid solution was given intravenously by Dr. Hyatt. Forty eight hours later the patient was much brighter and the lesions on the legs were smaller and the discharge had subsided. Eight days after the third injection of 25 cc. of physiologic sodium chlorid solution Dr. Hyatt reported that the lesions were drying, the appetite was better, and the child was brighter, more playful and took cognizance of his surroundings. The epileptic seizures were relatively fewer (two times per week).

Case 2. Baby R. R., age nine months, white male, seen in consultation with Dr. Ellsworth Kneal. The child had been given a bromid for pertussis. The eruption had been present for nine days and consisted of multiple carbunculaform lesions located on the face, scalp, trunk and legs. The baby was pale and listless and refused to eat. Physiologic sodium chlorid solution, 90 cc., were given intravenously. There was no reaction. Within seventy-two hours the lesions had markedly subsided and continued to improve until they were entirely gone at the end of two weeks. The general condition underwent a similar improvement, the color returned to its cheeks, it became happy and playful and the appetite returned to normal. Several weeks after the child had recovered the mother noticed a "breaking-out." Investigations revealed that the mother had recently been taking a bromid mixture. She stopped this and the eruption ceased immediately. This child is no doubt highly sensitive to bromin and the small amount which it received in the mother's milk was sufficient to cause the second cutaneous reaction.

CONCLUSIONS

Bromism does not respond rapidly to the withdrawal of the drug. This is apparently caused by the replacement of the chlorid in the tissues by the bromin and the reabsorption of the bromin by the gastric and intestinal mucosa thus accounting for an accumulation within the tissues.

The administration of large amounts of salt solution causes an increase of bromin excretion in the urine and a rapid amelioration of the symptoms of bromism.

1144 Missouri Bldg.

REFERENCES

1. Wile, U. J.; Wright, C. S., and Smith, N. R.: A Preliminary Study of the Experimental Aspects of Iodid and Bromid Exanthems, *Arch. Dermat. & Syph.* **6**:529 (Nov.) 1922.
2. Wile, U. J.: Further Contributions to the Experimental Aspects of Iodid and Bromid Exanthems, *Arch. Dermat. & Syph.* **8**:407 (Sept.) 1923.
3. Stevenson, J.: Sodium Chlorid in the Treatment of Bromism, *Arch. Dermat. & Syph.* **12**:525-527 (Oct.) 1925.
4. Bechet: Intravenous Administration of Sodium Chlorid in Bromoderma, *J.A.M.A.* **87**:320-321 (July) 1926.

CONGENITAL FAMILIAL ATROPHY OF THE NAILS

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AND

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Changes are very frequent in the consistence, elasticity, shape, size or contour of the nails. These changes may represent hypertrophy or atrophy or both and be acquired or congenital. The acquired changes, by far in the majority and usually due to some inflammatory, toxic, parasitic or trophic cause, are so frequently associated with some constitutional disorder that a careful examination of the nails should be an essential part of the routine physical examination.

Congenital atrophy of the nails is usually symmetrical, involving the fingers or toes or both, and appears at birth or in early childhood and is usually familial. Both atrophic and hypertrophic changes may be present. There may be complete absence of the nails and there may be coexisting anomalies of other epidermal structures, such as premature eruption of the teeth¹ or cranial alopecia.

Eisenstaedt² has reported three cases of dystrophy of the hair and nails occurring in brothers. He was able to trace the defect through five generations and suggested a possible relation between it and acanthosis nigricans because he found peculiar papillary hypertrophy of the skin not unlike that noted in acanthosis nigricans.

Among the early case reports was that of Nicollé and Hallipré³ who studied 55 members of a family representing six generations and found 36 persons suffering from the congenital affection of the nails and of the hair. They noted hypertrophy, splitting and friability of all the nails of the hands and feet together with a tendency to periungual inflammation.

Hutchison⁴ and O'Neill⁵ reported cases born without nails. The former found that in his cases (brother and sister) the nails appeared at the ages of 8 and 7 respectively, while the associated congenital alopecia did not improve. Eichhorst⁶ observed the congenital absence of all nails in a man of 26 years in whom the nail beds and folds were well developed and the hair and teeth were normal. No similar change existed in any other member of the family.

Barrett⁷ observed among 61 members of a family (six generations) the associated hair and nail defects in 14 cases. He pointed out the high frequency of feeble-mindedness and

neurological disorders of a degenerative type in this group and showed that there was a co-existing condition of hypothyroidism. Barrett, and more recently Tobias,⁸ suggested that the defect tends to occur in a Mendelian type of distribution.



Fig. 1

The accounts of dystrophy of the nails given in various textbooks on dermatology concern themselves usually with anatomical descriptions of the condition, while in a few instances, and particularly in individual case reports, association of the defect with endocrine disorders has been emphasized. That prenatal nutritional factors or maternal disease during pregnancy do not seem to contribute to the causation of the disorder seems apparent. The interesting fact is noted that the cases reported by Nicollé and Hallipré, Eisenstaedt, and White,⁹ were all of French or French-Canadian extraction.

A few reports have included a detailed study of the condition as it occurred in a given family through several generations and for this reason, they are especially interesting and

able to examine individuals from the last 3 generations. The accompanying photograph illustrates the nature of the defect in members of 3 generations.

In all cases, the defect was limited to the nails of the fingers. There was no associated dystrophy of the hair, no evidence of cutaneous disease, and no hypothyroidism. There was nothing to indicate organic or functional disorders of the nervous system. The blood Wassermann reaction on several members of the family was negative. A search for tinea in the scrapings from the nails was also negative.

The family tree is illustrated by the accompanying diagram, while the occurrence of the defects in regard to sex and generation is summarized in Table No. I. It will be noted that, in the entire series of 73 there are 46 normals and 27 defectives. Of the defective individuals, 18 are females and 9 are males. Twenty persons have the defect limited symmetrical-

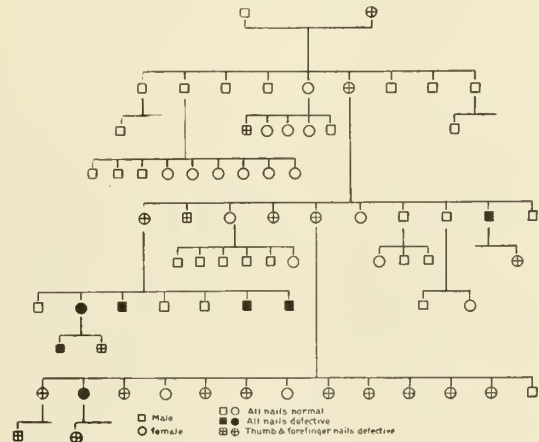


Fig. 2. Family tree

Table No. 1. Showing occurrence of defect in relationship to sex and generation.

Generations	First		Second		Third		Fourth		Fifth		Total
	♂	♀	♂	♀	♂	♀	♂	♀	♂	♀	
Male or Female.....											
All nails normal.....	1	0	7	1	9	11	12	5	0	0	46
Defects of thumb and forefinger nails..	0	1	0	1	2	3	0	10	2	1	20
All nails defective.....	0	0	0	0	1	0	3	2	1	0	7
Total.....	1	1	7	2	12	14	15	17	3	1	73

valuable. Moreover, the apparent tendency of the distribution to be Mendelian in type is important. For these reasons, it was thought that an additional report of the condition might be worth while.

In the present group of cases, consisting of 73 persons representing 5 generations, we were

ly to the nails of the thumbs and index fingers while 7 have all nails involved. Moreover, all of these 7 appear in the last 3 generations. With one exception, in every family group where defective nails occur one of the parents shows the defect, and in every case except one this defective parent is the female.

CONCLUSIONS

In the group of cases studied, over one-third of the members show congenital atrophy of the finger nails.

The defect is transmitted principally by the female.

The defect is increasing in incidence and severity in successive generations.

120 West Fifth Street.
Strong Memorial Hospital.

BIBLIOGRAPHY

1. Murray, F. A.: Four Cases of Hereditary Hypertrophy of the Nail Beds Associated with the History of Erupted Teeth at Birth, *Brit. J. Dermat.* **33**:409-412 (Dec.) 1921.
2. Eisenstaedt, J. S.: Three Cases of Family Dystrophies of the Hair and Nails, *J. A. M. A.* **60**:27 (Jan. 4) 1913.
3. Nicollé, M. G., and Halipré, A.: *Maladie Familiale Caractérisée par des Altérations des Cheveux et des Ongles*, *Ann. de dermat. et syph.* **6**:804, 1895.
4. Hutchinson, Jonathan: Cases Illustrating Diseases of the Nails, *Arch. Surg.* **2**:237, 1891.
5. O'Neill, B.: A Case of Congenital Absence of the Nails, *Lancet* **2**:979 (Dec. 9) 1916.
6. Eichhorst, Hermann: Angeborener Nagelmangel, *Centralb. f. Klin. Med.* No. 14, 1893.
7. Barrett, A. M.: Hereditary Occurrence of Hypothyroidism with Dystrophy of Nails and Hair, *Arch. Neurol. and Psychiat.* **2**:628 (Dec.) 1919.
8. Tobias, Norman: Hereditary Familial Dystrophy of the Nails, *J. A. M. A.* **84**:1568 (May 23) 1925.
9. White, C. J.: *Dystrophia Unguium et Pilorum Hereditaria*, *J. Cut. an. Dis.* **14**:220, 1896.

VITAL CAPACITY OF NEGRO CHILD

This study by Frank L. Roberts and James A. Crabtree, Trenton, Tenn. (*Journal A. M. A.*, June 18, 1927) is based on observations on 1,564 white children and 1,254 negro children from rural and urban localities. It was found that the vital capacities of negro children are definitely lower than those of white children of the same age, body weight and standing height. No significant difference was noted in the vital capacities of the negro children and white children on the basis of stem length. The difference is greater in the case of the boys. White girls exceed negro girls by 7.2 per cent, and white boys exceed the colored by 12 per cent. in vital capacity. Negro children have vital capacities lower than white children of the same body weight. The white girls exceed the colored girls by 10.2 per cent. and the white boys exceed the negro boys by 14.9 per cent. in lung capacity. Negro children have vital capacities lower than white children of the same standing height. The white girls show vital capacities averaging 6.8 per cent. higher than negro girls, and the white boys have vital capacities that average 11.2 per cent. higher than those of negro boys. Negro children have vital capacities practically the same as those of white children of the same stem length.

RELATIONS OF PHYSICIAN TO PUBLIC HEALTH

Hugh S. Cumming, Washington, D. C. (*Journal A. M. A.*, July 2, 1927), discusses the past and present relationship of public health and the medical profession; the development of health organizations, and of the medical profession and public health activities. He points out that it will be impossible for any group to delimit the respective fields of the private practitioner and the public health official in specific terms appropriate to the whole country. The people as a whole appreciate

the value of and, in a large part, the method for obtaining health. They are naturally more or less indifferent as to how this end shall be accomplished. The medical profession must appreciate this fact and aid in working out a solution. It is the privilege of the profession to cooperate with the public and its duly appointed representatives in the development of a satisfactory system, and it would be unfortunate to give the public at large any impression to the contrary. From time immemorial the medical profession has been regarded as the natural sponsor not only of individual but also of community health. Legal provisions relating to standards of medical education and privilege of the practice of medicine rest on this foundation. Whether this service in future shall be rendered by the profession in cooperation with health authorities or be made incumbent on the legal health representatives must depend on the character of the service rendered by the profession. It should be the object of the organized profession to impress on each individual physician his responsibility in this matter.

DISTURBED SURFACE AREA PROPORTIONS
IN CASE OF SUSPECTED OVARIAN
HYPERFUNCTION

The report made by Samuel Gordon Berkow, Perth Amboy, N. J. (*Journal A. M. A.*, June 18, 1927), concerns a case of suspected ovarian disturbance in a child, aged 8 years, in whom the surface area of the head represents a different proportion of the total body surface from what has been observed in any other child of that age. The head was fully 2 per cent. less than the ratio between that part and the total surface in other children 8 years old. This is nearly twice the variation encountered heretofore in the most divergent cases in one age group. The difference is in favor of the adult type. The remaining proportions were within the usual limits. The components of the upper and lower extremities exhibit the usual ratios. The arms were 72.2 per cent.; hands, 27.7 per cent. of the upper extremities; the thighs are 50.6 per cent.; the legs, 30.7 per cent., and the feet 18.6 per cent. of the lower extremities.

TUBERCULOSIS AND GOITER

E. P. Sloan, Bloomington, Ill. (*Journal A. M. A.*, June 18, 1927), fears that the rather frequent co-existence of goiter and tuberculosis is not sufficiently appreciated. Diagnostic difficulties are great, owing to the similarity of the clinical picture in the two diseases. The sequence of pathologic change in the thyroid explains the relative severity of the two diseases at different periods. *Three Types of Diagnostic Problem in the Early Cases.*—1. The incipient case of tuberculosis, without demonstrable lung lesion, resembling exophthalmic goiter. 2. The forme fruste type of exophthalmic goiter resembling early tuberculosis. 3. Coexistence of tuberculosis and goiter; coexistence of the two diseases, which is comparatively frequent, as shown by statistics. *Three Types of Cases That Are Sometimes Surgical.*—1. Chronic tuberculosis with toxic goiter. 2. Arrested tuberculosis with toxic goiter. 3. Acute cumulative toxemia resultant from coexisting pulmonary tuberculosis and toxic goiter. *Treatment.*—Early cases: medical; rest and hygiene as for tuberculosis. Late cases: surgical, when positive symptoms of thyrotoxicosis are unquestionably present.

THE JOURNAL

OF THE

Missouri State Medical Association

JANUARY, 1928

EDITORIALS

MIDWINTER MEETING OF THE COUNCIL

The Council together with other officers and members of the Association met at Kansas City, December 7, 1927, at 9:30 a. m., as required by the By-Laws, for the discussion of questions that appertain to the welfare of the organization. There were forty-two members present. The Chairman of Council, Dr. A. R. McComas, Sturgeon, presided.

Dr. W. H. Breuer, St. James, moved that the Committee on Arrangements for the annual session at Columbia next May consist of Drs. A. R. McComas, Sturgeon, Chairman; Wm. M. West, Monett; W. L. Allee, Eldon. The motion was duly seconded and carried.

On motion the dates of the meeting at Columbia were fixed for May 14, 15, 16, 17, 1928.

The Committee on Arrangements named Dr. Dudley A. Robnett, Columbia, as general chairman of the local committee on arrangements and on motion he was duly elected.

The Program Committee reported that they had made considerable progress toward arranging the schedule of papers which is to include several symposiums. The committee asked authority to invite a number of guests which authority, on motion, was extended to them. It was suggested by several members that the Program Committee so arrange the sessions as to prevent any conflict between the meetings of the House of Delegates and the general sessions.

Dr. Ralph L. Thompson, St. Louis, Chairman of the Committee on Postgraduate Courses, reported that the committee has on file the names of more than one hundred members who are ready and willing to respond to invitations to conduct postgraduate courses before the members when called upon. He urged that preparations be made in ample time to permit speakers to arrange their affairs before leaving for the meetings

and that members endeavor to have a good audience for the speakers.

Dr. M. P. Overholser, St. Joseph, suggested that in selecting speakers at the postgraduate meetings thought be given to the discussion of mental diseases as well as physical diseases.

Dr. C. E. Hyndman, St. Louis, Chairman of the Defense Committee, reported twelve new cases filed since the last meeting of the Association and that six cases and one threat have been terminated, one hung jury, two outlawed, one verdict for defendant, two dismissed by the plaintiff, one threat outlawed. He reported splendid cooperation on the part of the members with the Defense Committee.

Dr. R. A. Woolsey, St. Louis, Chairman of the Committee on Medical Education and Hospitals, reported that some matters under his jurisdiction were being investigated but no definite report could be made upon the questions now.

Dr. Joseph W. Love, Springfield, Chairman of the Committee on Medical Economics, reported that the committee had held one meeting and had made some progress. He expected to have another meeting of his committee and he hoped more promising and fruitful reports from their efforts would be forthcoming. He invited the members to give the committee any suggestions that occurred to them for investigation by the committee.

Dr. O. S. Gilliland, Kansas City, a member of the Committee on Medical Economics, said he thought our committee should cooperate with the Workmen's Compensation Commission, and that the question of supplying physicians to communities where no physician was located should be studied. In Kansas City, he said, there was a local ordinance requiring food handlers to be examined four times a year for which a fee of 25 to 35 cents is charged. He thought that question ought to be looked into with a view of requiring a fee commensurate with the service.

Dr. Jabez N. Jackson, Kansas City, made an earnest appeal for the Association to give special attention to the programs at the annual meetings and endeavor to attract a large number of the members to attend. He related that in Pennsylvania there were 1,400 registered on the first day and his address was delivered to an audience of 1,500. He suggested that the meetings of the House of Delegates be scheduled so that there shall be no conflict with the general meetings.

Dr. Charles H. Neilson, President-Elect of

the St. Louis Medical Society, said he had been an ardent believer in the State Medical Association ever since he began practice. When he graduated and began private work he spoke to two men, one Dr. Dorsett and the other Dr. Lutz, concerning society activity and they both advised him to interest himself in the work. Now, as president-elect of the St. Louis Medical Society, he assured the members of the earnest cooperation of that body with the State Association and his own personal desire to contribute every influence in his power to increase the usefulness of the Association and its component societies. He approved the sentiment expressed by others that our scientific programs should be wholly separated from any conflict with other sessions, particularly with the meetings of the House of Delegates.

Dr. C. A. Vosburgh, St. Louis, President of the St. Louis Medical Society, described his efforts during his incumbency to cooperate with the State Association in the advance of science of medicine and stimulate the interest of members in the St. Louis Medical Society and the State Association. His committees worked hard in this direction and after a while he observed the attendance to increase from an average of about 90 members to approximately 200 at the weekly sessions. The postgraduate courses he regarded as one of the most important undertakings of the Association and believed that this endeavor should be encouraged until it became a highly effective organized affair.

Dr. H. E. Pearse, Kansas City, Chairman of the Committee on Public Policy, reported upon the activities of his committee. He presented the request of the Physicians Life Insurance Company of Arkansas for the approval of the Council and explained that this company had recently been licensed to write insurance in Missouri. It is a mutual company and limits its policies to physicians, surgeons, dentists and their wives exclusively. The policy is limited to \$5,000 and provides an old age pension and cessation of payment of premiums after twenty years of payments. On motion the Council approved the general plan of the company and authorized the Publication Committee to accept its advertisement for our Journal.

Dr. H. E. Pearse called attention to the use of the radio by Samuel E. Ball, of Excelsior Springs, to advertise the Ball Health Institute. Ball's license had been revoked by the State Board of Health in 1927 for unprofessional conduct in maintain-

ing runners to solicit patients. Protests had been made by Clay County Medical Society and Jackson County Medical Society to the Sweeney Automotive and Electrical School, Kansas City, where Ball was permitted to broadcast and assurance was given that the contract with Ball would not be renewed. Dr. Pearse suggested that some action be taken requesting the United States Radio Commission to prevent the use of broadcasting stations for advertising of unlicensed and fake doctors and health institutes. The action of the Clay County Medical Society and the Jackson County Medical Society was approved by the Council and the Committee on Public Policy was instructed to proceed in their effort to stop this kind of broadcasting over the radio.

Dr. H. E. Pearse called attention to the revision of the statutes which will be accomplished between now and the next session of the legislature and suggested that some action be taken to safeguard the statutes on public health and the healing art. After discussion the Committee on Public Policy was authorized to employ such help as may be needed to prepare a digest of these laws and confer with the legislative committee on revision.

A letter was read from President Brookes, of the State University, extending a cordial invitation to the members to make use of the University buildings to any extent they may be needed and offering any assistance in his power to promote the success of the meeting. The secretary was instructed to express the appreciation of the Council to President Brookes and thank him for his offer.

A discussion of the facilities at the University hospitals for the care of crippled children was begun and Dr. Guy L. Noyes, Columbia, was invited to explain the status of the subject. Dr. Noyes reminded the members of the appropriation of \$35,000 which had been released and a large proportion used up at the present time for the equipment and maintenance. He said there are twenty children now under treatment at the hospital although they have had a maximum of twenty-five at one time. He estimated that the balance of the fund would carry them for about four months longer and if the work is to continue after that time some plan must be devised for the collection of the necessary money. Facilities at the University hospitals are limited and vary with the school year, there being more room during vacation periods and quite limited room while the schools at the Univer-

sity are in session. The question was generously discussed by Drs. Frank I. Ridge, R. A. Woolsey, W. H. Breuer, Frank G. Nifong, Robert M. James, Jabez N. Jackson, and T. W. Cotton, but no definite conclusion was reached.

The delegates to the American Medical Association were instructed to propose the name of Dr. Samuel C. James, of Kansas City, for affiliate fellowship in the American Medical Association. Dr. James is an Honor Member of the Jackson County Medical Society and the State Association, and has been in ill health for a long time.

A number of other matters of the routine nature were disposed of and the meeting adjourned at 5:30 p. m.

APPLICATION OF THE STATUTE OF LIMITATIONS TO MALPRACTICE ACTIONS

In the handling of malpractice suits our Defense Committee must be constantly alert in order to circumvent the devious methods of the unscrupulous lawyer. To paraphrase Bret Hart's "Heathen Chinee" we have found

That for ways that are dark
And for tricks that are vain,
The slyster lawyer is peculiar.

The threat of suit and the actual filing of the suit against a physician with the hope of a compromise payment is "old stuff." No longer does this process seriously disturb the practitioner who knows he has rendered the proper service. Our Defense Committee can usually terminate these cases where they began. Well aware of this the damage suit lawyer plots new schemes to mulct the physician.

There seems to be a growing custom among disgruntled patients to answer a suit on an unpaid bill for medical service by interposing a counterclaim of alleged malpractice or else start a separate malpractice action, which would procure a stay of the trial for the collection of the fee until the malpractice suit was disposed of. These actions, however, must be brought against the physician within the period of two years from the date when the last service was rendered. Our records contain several instances where the Defense Committee has found suits against members barred by the statute of limitations and the cases were dropped when the attention of the physician and his attorney was directed to this point.

To our damage suit lawyer, however, whose ways are dark and whose tricks are vain, circumventing a statute is a duty plain. So cleverly done are some of these attempts to outlaw the law that trial courts have sustained the

pleas. Rarely, however, are the higher courts hoodwinked. A very interesting and instructive instance of an attempt to defeat the just claim of a physician in New York is described by Lloyd Paul Stryker, counsel for the Medical Society of the State of New York.* The New York statute of limitations for malpractice suits against physicians is two years, the same as it is in Missouri. The actions of the trial and appellate courts in the cases described by Mr. Stryker cover considerable ground and discuss not only the application of the statute of limitations primarily but also several intercurrent questions that are highly important for Missouri physicians to understand.

In one instance the patient invoked the statute governing contracts pleading that he had entered into a contract with the surgeon for the removal of a duodenal ulcer. The lower court upheld this plea but the appellate court reversed that decision.

Mr. Stryker offers a suggestion of considerable import, i. e. when a physician has reason to believe a counter suit for malpractice may be entered against his suit for the collection of a fee, do not bring suit for the fee until the limit for filing malpractice suits has expired, namely two years after the last service was rendered. Mr. Stryker's article follows:

In a recent case a physician who had rendered services to a patient, and who after completion of the services, had sent numerous bills, was paid only a small part of his fee. His requests for payment being unanswered, he finally instituted a suit against the patient to recover the balance of his bill. After denying that the physician's services were worth the amount that he had requested, the patient in answer to the physician's action interposed a counterclaim of alleged malpractice. She charged that the physician had undertaken to cure her of gallstones from which she then suffered, but that through his negligence and carelessness he had diagnosed her malady as cystitis and treated her for such condition instead of diagnosing and treating her for a malady of gallstones. The answer of the patient containing this counterclaim of malpractice was interposed to the physician's action more than two years after the services had been rendered by the physician. The physician in his reply to the counterclaim pleaded the two year statute of limitations which provides that an action for malpractice must be commenced within two years after the cause of action accrues. Thereafter, on behalf of the physician, a motion was made to dismiss the malpractice counterclaim on the ground that it was barred by the statute of limitations. In opposition to this motion the patient contended that as the cause of action contained in the counterclaim arose out of the same transaction or subject of transaction of which the physician's action to recover for his services arose, the two year statute of limitations did not apply but that the patient was entitled to the benefit of the same statute of limitations as was applicable to the physician's action, to-wit: the six year statute of limitations. The lower

*New York State J. Med. 27:1375 (December 15) 1927.

court determined the motion favorably to the patient and denied the physician's motion to dismiss the counterclaim. The lower court in the course of its opinion said:

"The cause of action alleged in the counterclaim arose out of the original transaction upon which plaintiff bases his demand for judgment. If a cause of action survives to plaintiff from this transaction, then the defendant is entitled to assert any right or remedy that accrued to her from the same transaction. The legal effect of the transaction to the parties so far as they make demand in their pleadings must be determined. The rights and remedies of the same parties arising out of the same transaction cannot be divided and separated and some preserved and others cast out.

"When the plaintiff commenced this action he invited the defendant to take advantage of any infirmity that effected the transaction which is the subject of this litigation, even though defendant would be barred from instituting an independent action for the relief sought in the counterclaim."

If this decision had been permitted to stand, or was affirmed by an appellate court so that it became the law of this state, it would deprive not only physicians but others as well of a most valuable right; and no matter how long a physician might wait after the rendition of services before instituting an action to collect for such services there could always be interposed against such action a counterclaim of alleged malpractice. So that the effect of the decision would be to extend the statute of limitations from two years to six years when the claim of alleged malpractice was interposed as a counterclaim. To determine the correctness of this decision we took an appeal to the Appellate Division which happily has reversed the order of the lower court and granted the defendant's motion dismissing the counterclaim.

The Appellate Division after reviewing the authorities upon which the decision of the lower court was based said:

"The counterclaims in those cases not only arose out of the contracts of the plaintiffs but were parts of those contracts. The plaintiff in each of those actions was attempting to sever the contract and to enforce part and repudiate the balance. It was simply held that the contract must be enforced in its entirety. The plaintiff was not at liberty to divide the contract and enforce a portion thereof favorable to himself, but was required to stand or fall on the entire contract."

With respect to the answer of the defendant denying the value of the services rendered it was held that the defendant under such denial may prove the alleged malpractice of the plaintiff to show that the services were not of the reasonable value claimed by the plaintiff.

In its decision the court construed the application of a section of our Civil Practice Act which provides:

"A cause of action other than for the recovery of real property, upon which an action cannot be maintained as prescribed in this article, cannot be effectually interposed as a defense or counterclaim."

On behalf of the defendant it was contended that the provisions of this section gave an unfair advantage to the plaintiff and permitted him to prosecute his cause of action, although a counterclaim in favor of the defendant arising out of the same transaction or subject of action was barred by the statute of limitations. It was further contended that the provisions of this section should not be held to apply to counterclaims of this nature.

In answering this contention of the defendant the

Appellate Division said with reference to the above section of the Civil Practice Act:

"Its phraseology could not be more comprehensive. It not only outlaws a counterclaim but also a 'defense.' A cause of action barred by the statute of limitations cannot be interposed as a *defense* or a counterclaim. * * * The language of Section 61 is sweeping and the intent thereof seems fairly to have been to outlaw all defenses or counterclaims pleaded, as such which could not be the subject of an affirmative action."

By this decision of the Appellate Division there is preserved to the physician the right to plead the bar of the statute of limitations when a malpractice claim is interposed as a counterclaim to an action for services rendered where the cause of action contained in the counterclaim did not accrue within two years prior to the assertion of the counterclaim.

In instances where physicians have not been paid for their services rendered, and where the result of their treatment has not been up to the expectations of the patient, or where the patient is dissatisfied with the services and there is a likelihood that in the event the patient is sued to recover for services rendered there would be an assertion of a counterclaim of alleged malpractice, it would be wise that the physician wait until at least two years after the rendition of his services before instituting suit against the patient so that in the event that a counterclaim is interposed the two year statute of limitations may be pleaded in bar to such counterclaim.

Statutes of limitations are not new in our system of jurisprudence and we have had such statutes limiting the time within which various types of actions can be commenced for hundreds of years. The purpose of such statutes is to restrict the period within which the right of action, otherwise unlimited, might be asserted. Such statutes have been founded in part at least on the general experience of mankind that claims which are valid are not usually allowed to remain neglected, and that the lapse of years without any attempt to enforce a demand prevents a judgment against its alleged validity. The object of statutes of limitations is to suppress the assertion of stale claims when all the proper vouchers and evidence are no longer in existence or the facts have become obscure through the lapse of time, defective memory, death, or the removal of witnesses.

The patients who feel that they have been aggrieved by the services rendered them by a physician have at times resorted to various means to circumvent the statute of limitations where they have delayed longer than the statutory period in the commencement of a malpractice action.

In one instance a plaintiff had been under treatment of a physician from the 3rd of June to the 20th of July, and in a malpractice action instituted against the physician two years from the following September it was charged that through the negligence of the physician and in the course of his treatment a needle broke and was permitted to remain within the patient's body. In answer to this claim on behalf of the physician a motion was made to dismiss the complaint on the ground that more than two years had expired since the cause of action stated in the complaint had accrued and that therefore the same was barred by the statute of limitations.

On behalf of the plaintiff it was contended that the tort or wrong of the physician was a continuing one in that each day that he treated the plaintiff and failed to remove the broken needle a new claim arose in favor of the patient.

In determining the motion favorably to the physi-

cian and in passing upon the plaintiff's contention, the court said:

"The wrong complained of was the failure of the defendant to perform a certain duty which he owed to the plaintiff. The question therefore arises how long that duty continued. It cannot be urged that the duty exists at present and that it will continue indefinitely until the cause of action abates by the death of either of the parties. If the contention of the plaintiff were sound the statute of limitations could not at any time be invoked as a bar to this action. It is more reasonable to assume that the duty, regardless of the question whether or not a failure of performance constituted actionable negligence, continued throughout the period of the treatment by the plaintiff at the hands of the defendant, and the latest period at which it could be expected that such duty would be performed and where failure of performance might constitute negligence was the occasion of the final treatment of the plaintiff by the defendant. Under the circumstances it seems that although the plaintiff's contention that the tort continued beyond the first day of June is good, the facts indicate that the tort did not continue beyond the 20th day of July, which was itself more than two years before this action was brought. It is the opinion of this court that although the tort continued to July 20th, it did not continue beyond the date, and that on the latter date the cause of action of the plaintiff accrued, and that the statute of limitations as sought to be invoked herein clearly applies."

In another instance, a patient suffering from a duodenal ulcer had consulted a surgeon. Nearly five years had elapsed from the time of the surgeon's treatment of the patient until the bringing of a malpractice action. In his complaint the plaintiff sought to charge the defendant with a breach of contract, hoping thereby to avoid the two year statute of limitations applicable to malpractice actions and invoke the six year statute of limitations applicable to contract actions.

In his complaint the plaintiff alleged that at the time he consulted the physician and surgeon he was suffering from a duodenal ulcer and that he entered into an agreement with the surgeon wherein and whereby for the consideration of one hundred and fifty dollars, to be paid to the surgeon, the surgeon agreed to perform a surgical operation for the removal of the duodenal ulcer. The plaintiff alleged that he performed all the provisions of the contract upon his part to be performed, but that the defendant surgeon failed and neglected to perform his part of the agreement in that he failed and neglected to remove the duodenal ulcer from the body of the plaintiff, permitting it to remain therein, and instead removed the appendix. In his complaint the plaintiff sought damages for pain, suffering, mental anguish and moneys claimed to have been expended for other medical and surgical care. He also claimed that he was prevented from attending to his usual vocation for a long period of time. To this cause of action a motion was made to dismiss the complaint on the ground that it stated a cause of action of malpractice and that it was barred by the two year statute of limitations. The plaintiff contended that his action was not one of malpractice but one for breach of contract and that the six year statute of limitations applied. The lower court denied the defendant's motion to dismiss the complaint. An appeal was taken by the defendant to the Appellate Division. That court examined the allegations of the complaint and said:

"While in the complaint now under consideration neither lack of skill nor negligence is charged, the

basis of the charge is 'improper performance' of the work to the personal injury of the plaintiff."

It was further held by the Appellate Division that the damages asked by the plaintiff, \$50,000, for pain and suffering were not suited to an action for breach of contract, and in reversing the decision of the lower court the Appellate Division concluded:

"The nature of the charge of malpractice is not changed by failing to sufficiently state it in necessary detail; or by putting it in language suitable to the statement of a cause of action on contract, omitting the usual allegations as to the absence of skill and negligence."

From these recent decisions it will be seen that there has been preserved to the physician valuable rights in opposing and successfully defending malpractice actions or counterclaims which have not been instituted within two years after the cause of action accrued.

FATHER SCHWITALLA APPOINTED DEAN OF THE UNIVERSITY SCHOOL OF MEDICINE

Rev. Alphonse M. Schwitalla, S.J., Ph.D., was appointed dean of the St. Louis University School of Medicine by President Cloud, of the St. Louis University, December 12, to fill the vacancy created by the death of Dean Hanau W. Loeb. The selection of a layman as the head of the medical department of a University is not unique. In fact this is the second time St. Louis University has entrusted the affairs of its medical school to the guidance of a nonmedical man, E. P. Lyon, Ph.D., now dean of the University of Minnesota Medical School, having served as dean of the St. Louis University Medical School from 1907 to 1913, a position that he filled with eminent success. In the choice of Father Schwitalla we believe the University has found a man who possesses all the instincts that characterize the highest type of physician and who will bring to the position the highly developed talents of one who knows how to administer the peculiar problems of the present day Grade A medical school. Coupled with his broad knowledge of the general sciences he has the added preparation for the position of full courses in the medical school up to the clinical years.

Born in Upper Silesia, Germany, in 1882, he came to this country with his parents in 1885. He attended the St. Louis University where he received his A.B. and A.M. degrees and took his Ph.D. in zoology at Johns Hopkins University in 1921. After teaching at St. Xavier's College in Cincinnati and the Rockhurst College at Kansas City, Missouri, for several years he was appointed associate professor of biology at the St. Louis University in 1921 and professor of biology and director of the department in

1924. Later he was appointed regent of the School of Medicine and the School of Dentistry and dean of the Graduate School of the University. He has published numerous articles on the philosophy of biology, investigations on the environment of organisms and related subjects.

Father Schwitalla will be assisted in his duties as dean by Don R. Joseph, M.D., who has been promoted from vice dean to associate dean of the medical school.

KANSAS CITY MEETING OF THE INTERSTATE POSTGRADUATE MEDICAL ASSOCIATION

The Interstate Postgraduate Medical Association of North America, meeting with the Kansas City Southwest Clinical Society, at Kansas City, Mo., October 17 to 21, 1927, was one of the largest and most successful medical meetings ever held in the United States. This was made possible by the splendid committees of the Kansas City Southwest Clinical Society working under the direction and supervision of the Interstate Postgraduate officials. But to a much larger extent the success of the meeting was due to the extremely large number of distinguished guests who came from all parts of the United States and Europe with exceptional papers. Presentation of the papers was facilitated by the use of loud speakers in the auditorium of Ararat Shrine Temple, where the meetings were held, so that every one in the auditorium could easily understand every word. The auditorium was practically filled from seven in the morning, when the meetings were promptly called to order, until the entire program was completed late in the evening, the large majority of the audience being present for each paper that was read each of the days the association was in session. Seldom has a medical audience been so attentive and patient and the distinguished lecturers so alert and serious in their presentations as they were throughout this prolonged and arduous program.

One of the largest commercial exhibits ever assembled filled every available space outside of the auditorium. This was likewise under the supervision of the Interstate officials so that it came up to the same standard as the meeting itself.

The Missouri State Medical Association was greatly appreciative of the invitation it received to present a scientific exhibit at this meeting. Among its several exhibitors it was especially honored to have had the privilege of presenting the exhibit of Dr. V. P. Blair, of St. Louis, on plastic facial surgery.

On October 14 and 15, preceding the regular meeting, the Kansas City Southwest Clinical Society held pre-assembly clinics in the hospitals of Kansas City, Mo., and Kansas City, Kansas. These were very instructive and well attended. On the evening of the 15th the annual alumni dinners were held with an exceptional attendance present.

It is a very great honor for us to have entertained in our state such a large group of distinguished visiting physicians from all the states and from so many countries in Europe. The medical profession of the Southwest has been greatly benefited and inspired by these great clinicians, surgeons and research workers. The meeting, as the title of the Association implies, was entirely a postgraduate session.

DEDUCTION OF EXPENSES ATTENDING MEDICAL MEETINGS NOT RECOMMENDED BY WAYS AND MEANS COMMITTEE OF CONGRESS

For several weeks before the present session of the Congress opened the American Medical Association and the state medical organizations endeavored to induce the Committee on Ways and Means of the House of Representatives to permit physicians to deduct from their income tax the traveling expenses they incurred while attending medical meetings and postgraduate courses. The Committee refused to remove this discrimination against the medical profession notwithstanding the fact that chemists, ministers and others are permitted to deduct such expenses. The House of Representatives adopted the report of the Ways and Means Committee so promptly that there was no time to appeal to representatives. There is still time for us to appeal to the Senate and we hope our members will write the senators asking them to extend the same privilege to physicians as is allowed other professions and business men in this respect.

One of our Congressmen, Mr. Charles L. Faust, of St. Joseph, favored our proposition both in the Committee and on the floor of the House. He says the arguments in favor of it are overwhelming but he was unable to induce the Committee to favor our proposition.

The American Medical Association is still working on this question and we hope that we may find the Senate more reasonable in its attitude toward the unjust discrimination imposed upon us by the Commissioner of Internal Revenue and the House of Representatives.

NEWS NOTES

Oliver F. Duffy, son of Dr. E. A. Duffy, Trenton, secretary of Grundy County Medical Society, is a freshman at the St. Louis University School of Medicine.

Dr. J. F. Buckley, La Plata, for the past thirty-six years president of La Plata Board of Education, has resigned that position. Dr. Buckley is 73 years of age and was a member of the Macon County Medical Society for many years.

The license of Dr. T. S. Manning, St. Louis, was revoked by the State Board of Health in St. Louis, November 30, 1927. The charges against Dr. Manning were bad moral character on account of promiscuous prescription writing for narcotics for addicts. Dr. Manning has appealed to the Circuit Court for a review of the proceedings.

The first woman physician to hold an executive office among county medical societies in Missouri is Dr. Bertha E. Sheetz, of Trenton, who was president of Grundy County Medical Society in 1925. Grundy County Society has honored another of its prominent women physicians by the election of Dr. Deborah Doan Phillips, of Trenton, to the presidency for 1928.

The voters of St. Louis County approved the \$1,000,000 bond issue for the construction of a new hospital at the election held on November 2. The hospital item is the only one of the four items totaling \$12,750,000 that was approved by the voters. George W. Stevens, of Washington University, has been elected chairman of the Citizens Committee which will supervise the expenditure of the money for the construction of the hospital.

The Lutheran Hospital, St. Louis, has named its X-ray laboratory the "Dr. Kessler X-ray Laboratory" in recognition of the long years of faithful service that Dr. Kessler has given to the hospital. The department was operated by Dr. Kessler for many years but he has recently decided to retire from active work but will continue to serve as a consultant. For the present he has consented to supervise the operation of the X-ray laboratory at the hospital until another man has been found to fill the position.

A Christmas party for children was held at the St. Louis Psychiatric Clinic, Municipal Courts Building, St. Louis, December 18, and was attended by 150 children, all of whom had been former psychiatric patients at the clinic during the four and one-half years of its existence. Dr. William Nelson, attending physician, and Mrs. Nelson, were in charge of the party. The entertainment included music, games, refreshments and a visit from Santa Claus.

It is expected that construction will start this fall on the new William Henry Eustis Hospital for Crippled Children in Minneapolis, which is to be built on the campus of the University of Minnesota. The funds for the new hospital, amounting to nearly \$600,000, have been provided entirely by Mr. Eustis, a former mayor of Minneapolis, who has established a trust fund for the maintenance of the hospital. The outpatient department will be financed by state funds already appropriated for the purpose.

Dr. Fred H. Albee, New York City, was the guest of the St. Louis Medical Society December 6 and demonstrated his methods in bone surgery. Dr. Albee is professor of orthopedic surgery at the New York Postgraduate Medical School and he demonstrated to the members of the St. Louis Medical Society the use of automatic machinery in surgical work. Nearly all the instruments he uses have been devised by himself. Previous to the address at the meeting of the Society Dr. Albee was the dinner guest of the members at the Coronado Hotel.

During the recent meeting of the American Psychiatric Association in Cincinnati there was formed the Central Psychiatric Hospital Association, which is composed of private sanatoriums for the care and treatment of nervous and mental diseases. Dr. Thomas Ratliff, Cincinnati, is president and Dr. D. A. Johnston, Cincinnati, is secretary-treasurer. The purposes of the association are to foster cooperation among private hospitals for nervous and mental diseases for their mutual benefit and to promote and maintain high standards, increase efficiency of organization and the advancement of scientific care and treatment for those in their care.

The City Hospital at St. Louis held open house on Thursday, December 15, for a

Christmas sale of the work of patients in the occupational therapy department. Dr. Eugene A. Scharff, superintendent of the hospital, invited the public to visit the institution on that day. Tea was served in the afternoon by the wives of city officials, the following being hostesses: Mrs. Victor Miller, Mrs. H. J. Elson, Mrs. Harry Salisbury, Mrs. J. Wilbur Shankland, Mrs. Fred Pape, Mrs. Richard Dudley, Mrs. John Schmoll, Mrs. Fred Usher, Mrs. G. M. Johansen, Mrs. Samuel Broadbent, Mrs. Robert Erwin, Mrs. Stella Barnes, Mrs. Charles Wirdemueller and Mrs. Charles Barnbeck.

Dr. William F. Grinstead, Cairo, Illinois, was the recipient of a testimonial dinner given in his honor by one hundred physicians of Southern Illinois and Southeast Missouri at the Halliday House, Cairo, December 14, 1927, to celebrate his fiftieth year in the active practice of medicine.

Dr. Grinstead was born in Charleston, Mississippi County, Missouri, in 1853, and practiced in Charleston for a number of years after his graduation from the Vanderbilt University School of Medicine and internship at the City Hospital in Nashville, Tennessee. He moved to Cairo, Illinois, after five years of practice in Southeast Missouri and has been honored by the Illinois physicians on numerous occasions, reaching the climax of his career when he was elected president of the Illinois State Medical Association in 1920. Among the Missouri physicians present at the dinner were: Drs. Roland Hill, St. Louis; W. S. Love and J. R. Lee, Charleston; W. L. Digges, New Madrid; S. P. Martin, East Prairie; and Congressman R. E. Bailey, Sikeston. Dr. Grinstead has never ceased to show an earnest interest in the welfare of the medical profession in his native community and always attends the meetings of the Southeast Missouri Medical Society and other meetings in that part of our state.

Dr. Charles H. Neilson, St. Louis, has been elected president of the St. Louis Medical Society for 1928. Dr. Neilson is chief of staff at St. John's Hospital and professor of internal medicine at the St. Louis University School of Medicine. He has been a member of the St. Louis Medical Society ever since he began practicing in St. Louis twenty-three years ago and has been an active and prominent worker in all medical

society affairs not only in St. Louis but in the State Medical Association and in the Section on Internal Medicine of the American Medical Association. Dr. Drew W. Luten was elected first vice president; J. C. Lyter, second vice president, and Roland S. Kieffer reelected secretary. Drs. C. A. Vosburgh, Frank J. V. Krebs, John F. Hardesty and John Green, were elected members of the Council for a period of three years each and Dr. R. B. H. Gradwohl was elected a member of the Council to fill an unexpired term.

Dr. Ralph W. Holbrook, Kansas City, has been elected president-elect of the Jackson County Medical Society, Dr. Kerwin W. Kinard, Kansas City, assuming the presidency in January, 1928. Dr. Holbrook has practiced medicine in Kansas City for twenty years and has been identified with the activities of the organization in various ways since his graduation from the Kansas City Medical College in 1904. He was a delegate to the State Medical Association in 1920 and 1921 and was treasurer of the Jackson County Medical Society in 1927. Other officers elected were: Secretary, J. Milton Singleton, Kansas City; treasurer, J. T. Pittam, Kansas City; members of the Executive Council, J. E. Stowers and O. S. Gilliland, Kansas City.

OBITUARY

JOHN S. KIMBROUGH, M.D.

Dr. John S. Kimbrough, St. Louis, a graduate of Washington University School of Medicine, 1890, died at his home December 17, 1927, of heart disease, aged 61.

Dr. Kimbrough, one of the best known skin specialists in St. Louis, was a native of Clinton, Missouri. He went to St. Louis to enter Washington University and after his graduation remained there to practice. After general surgical practice for a number of years he began specializing in diseases of the skin and treatment by radium. At the time of his death he was medical director of the Radium Laboratory located in the Beaumont Medical Building. He was a member of the St. Louis Medical Society, the State Medical Association and a Fellow of the American Medical Association. He is survived by two brothers and two sisters.

IN MEMORIAM

ROBERT T. HENDERSON, M.D.

The Cape Girardeau County Medical Society adopted the following memorial to the late Dr. Robert T. Henderson:

"Our esteemed colleague, Dr. Robert T. Henderson, died at his home in Jackson, Missouri, October 14, 1927, aged 87 years, 7 months and 2 days. He practiced medicine in Southeast Missouri fully sixty years. He was a member of the Cape Girardeau County Medical Society, the Southeast Missouri Medical Association and the Missouri State Medical Association.

In the early days of his medical career when he resided at Shawneetown, Missouri, he formed the Medical Quiz Club which met at the homes of the various members at stated intervals. Later he organized the Apple Creek Medical Society that convened at Appleton, Missouri, once a month, and he was always found in attendance. The Apple Creek Medical Society was supported by the doctors in the northern part of Cape Girardeau County and the southern area of Perry County. He was a most enthusiastic friend of organized medicine and did his might for the elevation of the standard and general advancement and betterment of the medical profession, more especially the country doctor. He can be numbered among the pioneers of medicine in this county. He wrote numerous papers and attended medical association meetings and always strove to equip himself to render the best possible service to his clientele. His last effort in association work was a paper read at a meeting of the Southeast Missouri Medical Association at Cape Girardeau in October, 1924, entitled 'Reminiscences of the Medical Profession of Southeast Missouri in By-Gone Days,' in which he recounted the hardships and problems of the country doctor in the early days. This paper was published in the State Journal.*

Until physical weakness prevented he was active in the practice of his profession and always interested in medical progress. He was noted for his unselfish devotion to his clients and his charitable disposition toward all mankind, especially the widow and the fatherless. His acute sense of honor and high moral principles made him a powerful force for good in the community in which he lived. His association with his medical brethren was marked by strict observance of the code of medical ethics and the Golden Rule. He harbored no spirit of jealousy and loved to see his fellows excel in the 'Divine Art' of medicine and surgery. He displayed a genial and generous spirit toward

his fellow practitioners which is possible only to those who practice an art, never to those who drive a trade. He never commercialized his calling. Service was the goal of his ambition which is the most comforting and lasting asset one can have in this span of life. It was not in him to inquire as to one's financial condition when a call came for assistance; it was to help. The lure for sordid greed never penetrated his armor. He lived an absolutely clean life. He fought the evils of this life both in the profession and out of it. He was a distinguished member of the Masonic fraternity and his conduct was governed by the plumb and tried by the square. He was a devout Christian and a respected leader in the Presbyterian Church wherein he paid his devotions to the Deity with regularity. He was ever loyal to any cause he espoused. He finished his course and kept the faith.

He approached life's calm close,
Tranquil, patient, and frail;
Breathing the sad contented song,
The song of the ended trail.
But, happy in his memories,
He watched life's twilight fall,
And smiled on death all tenderly
When answering the call."

EDWARD W. SAUNDERS, M.D.

Dr. Edward W. Saunders, St. Louis, a graduate of the University of Virginia Department of Medicine, Charlottesville, 1875, died at his home December 19, 1927, after an illness of eighteen days, from cerebral thrombosis, aged 73.

Dr. Saunders, the first specialist in children's diseases in St. Louis, was born in Caryswood, Virginia, October 15, 1854. He was educated in a private school at Charlottesville, Virginia, and later entered the University of Virginia from which he received his medical degree. For two years following his graduation he studied in London and Vienna hospitals, specializing in pediatrics and obstetrics. In 1878 he came to St. Louis where he gained an enviable record as a diagnostician. His unusual success made him known throughout the East and in the Central States and he was regarded as one of the greatest living diagnosticians of children's diseases. He was known among the medical profession as "the father of pediatrics west of the Mississippi River." He was professor of pediatrics at the Missouri Medical College and later professor of pediatrics and obstetrics at the Washington University School of Medicine. During that time he was also lecturer and adviser of the American Pediatric Society, having the distinction of being

*J. Missouri M. A. (April) 1925, p. 144.

for a long time the only Missouri member of that Society. He was one of the first specialists in this country to recommend the use of acidulated milk for infant diet and to use mercurochrome for sleeping sickness. In an epidemic of infant scurvy about 1895 he quickly found a dietary antidote. He did much research in infantile paralysis, contributed largely to medical journals and wrote several medical books.

Dr. Saunders was noted for his charity work among children of the poor and he gave his fortune and life for the relief of their suffering. In 1889 he founded the Bethesda Institute at Ninth and Russell Avenue, which grew and expanded until it consisted of a maternity home, a home for incurable cripples, an old folks home, a foundling asylum and a general hospital. He not only contributed his services but paid the rent for the building and also the funeral expenses of poor patients. In 1896 when the old building was demolished by the tornado the institution began to receive donations. It was the rule of the institution that subscriptions were not to be solicited. In thirty-eight years Bethesda, under the direction of Dr. Saunders, has grown from one small building to an institution with buildings and grounds valued at approximately \$700,000 at 3649 Vista Avenue and at the former Dilworth home on Big Bend Road, now known as the Bethesda-Dilworth Memorial Hospital, which is the latest endowment by St. Louis philanthropists who appreciated the good work of the institution.

The modesty of Dr. Saunder's life and spirit of service was disclosed in a letter written eight days before his death in which he requested that all money which his friends might wish to spend on flowers be designated for the help of Bethesda. He was a small, mild mannered man, with a ready smile, the family physician type of decades ago. He was never married which he explained by saying that when he was young he felt that marriage might retard his career as a physician. His recreation and work were the same. He was never known to take a vacation because his extensive practice and the direction of Bethesda left time for nothing else. A year ago when suffering from a breakdown he refused to give up until St. Louis doctors took him, nearly forcibly, away and sent him to his old home in Virginia to recuperate. He spoke both the French and German languages and kept a file of the important medical publications and made it a point to be

abreast with the discoveries and researches in his field. He was also familiar with Greek, Hebrew and Latin and was asked by the University of Virginia, his Alma Mater, to take the chair of Greek three years ago, but he declined, saying he could not leave his work in St. Louis.

He was a member of the St. Louis Medical Society, the State Association and the Central States Pediatric Society and a Fellow of the American Medical Association. He was an elder in the Memorial Presbyterian Church and an enthusiastic Bible student, his knowledge of Greek enabling him to read the New Testament in its original language.

Services for Bethesda patients and workers and inmates of the allied institutions were conducted in memory of Dr. Saunders December 20. Funeral services were held December 21 at Memorial Presbyterian Church, University City, and the body was sent to Evington, Virginia, for burial beside that of his mother. He is survived by two brothers and four sisters.

OSCAR W. NAUMAN, M.D.

Dr. Oscar W. Nauman, Craig, a graduate of Northwestern University Medical School, Chicago, 1903, died December 13, 1927, aged 50.

Dr. Nauman acquired his preliminary education at the Missouri Valley College, Marshall, Missouri. After receiving his degree of Doctor of Medicine he practiced in Chicago from 1903 to 1909. In 1909 he was granted a license to practice medicine in Missouri and moved to Craig where he remained until his death. He held membership in the Holt County Medical Society and the State Association. He was also a member of the Modern Woodmen of America. He is survived by his widow and one son, Warner.

JULIUS BACKY, M.D.

Dr. Julius Backy, St. Louis, a graduate of Barnes Medical College, 1911, died at his home December 9, following a heart attack, aged 68.

Dr. Backy was born near Budapest, Hungary, in 1859 and acquired his early education and fundamental medical training in his native land. In 1902 he came to this country and spent some time in Cleveland, Ohio. About eighteen years ago he came to St. Louis and completed his study of medicine. Ever since his graduation he practiced medicine in St. Louis. He was a member of the St. Louis Medical Society and the State Association. Surviving him are his widow and two children.

WILLIAM F. MITCHELL, M.D.

Dr. William F. Mitchell, Webster Groves, a graduate of St. Louis University, 1921, died November 29, 1927, at the St. Louis Isolation Hospital of blood poisoning and scarlet fever, aged 39 years. He became infected while treating his four-year old son in an effort to save him from scarlet fever. The son, William, died ten days before his father. Two hours after the death of the son Dr. Mitchell became very ill and blood poisoning set in which was the primary cause of his death.

Dr. Mitchell was a native St. Louisan where he received his early education in the public schools. About ten months ago he moved to St. Louis county where he was assistant to Dr. Vincent Townsend in Maplewood. Previous to this he practiced at Ballwin, Missouri, for about eight months. He was a member of the St. Louis County Medical Society and the State Association. Surviving him are his widow, an eight months old daughter and his mother.

Books for Leisure Moments

To attempt a medical book for lay readers is a delicate task. These volumes usually vary from the physiological type, rich in illustrations of stomachs that are presumably completely wrecked by alcohol, to the sex type which tell you, as Dr. Clendening states in his introduction, "What a Girl of Eighty Ought to Know." Rarely do we encounter an intelligent, readable, humorous but serious and at the same time philosophical work such as is presented to us under the very good title of "The Human Body" (Alfred A. Knopf, New York).

Briefly outlined, the author of this book explains the structure, organic function and diseases of the human body in accordance with the well known facts of anatomy, physiology and pathology. Along with this he has woven into his subject matter a philosophical and humorous viewpoint of life that must be read to be appreciated. It is only by quotations that this book could be adequately reviewed, but there are so many worth while epigrams that one does not know where to begin or where to leave off. The one on alopecia will catch the crowd: "He may be sitting on chairs with snake oil and violet lamps playing all over his head, when the only way to cure his baldness would have been to castrate his grandfather." And another: "Our bodies are the traps in which each of us is caught," a sentence that contains all the philosophy of the ages.

As is the case with every one who expresses an opinion on moot questions there will be many who will take exception to some of Dr. Clendening's statements. To begin with the author holds no brief for the blue-nosed prohibitionist. He can find no evidence to show that the moderate or even fairly immoderate use of alcohol is, except rarely, ever attended with serious physical consequences. If a man resolves to abstain from alcohol he can "applaud him and avoid him."

Exercise and fresh air may make one feel better but that they ever promote longevity the author seriously doubts. In regard to the overweights and the underweights, he says "the heavy ones are interested in getting just the right flavor to their cocktails; the thin ones in getting the most potent fluid extract of cascara."

It is Dr. Clendening's statement in regard to periodic health examinations that will probably give rise to the most argument from the rank and file of the medical profession. I do not see how any one of common sense can agree with the author's statement that "he has seen nothing but grief and unhappiness come from such examination." Yearly we are picking up thousands of cases of unsuspected cancer, tuberculosis, focal infection, thyroid disease and syphilis by such examinations at a time when they can be cured and human life prolonged.

In conclusion, the author deplores the tragedy of old age. He sees nothing so horrible as growing old. Not even Cicero's essay on old age appeals to him. If Cicero's classic leaves the doctor cold, may we recommend Browning?

"Grow old along with me
The best is yet to be,
The last of life for which the first was made."

R. L. T.

One of the most comprehensible and valuable books published this year is "The Conquest of Disease" (The Macmillan Company), by Dr. Thurman B. Rice. The victories of modern science, made possible by years of intensive research, are graphically brought out in this book. Remembering the dramatic occurrence at Nome, Alaska, when the lives of hundreds of children were saved by the arrival of the diphtheria antitoxin, on a dog sled drawn through five hundred miles of Arctic storm, one can readily appreciate the expression, "Conquest of Disease." There are three purposes that constitute the theme of this book, namely:

1. To present to the public the most recent

scientific information in regard to transmissible diseases, in order that these diseases may in time be controlled or perhaps ultimately eradicated.

2. To present the information in an interesting manner, so that it will appeal to the laity as well as to the medical profession. Confidence in the methods and motives of science is the most important asset to be established.

3. To emphasize the great advances that have already been made through scientific methods by comparing the past with the present.

A very instructive chapter in this book is one that is widely discussed and is a much abused subject, that concerning "how we catch" a disease, or in other words, the means by which disease is spread. Fine distinctions between the contagions and infections are no longer made. With more exact knowledge of germ transmission it has been decided by authorities to refer to infections as communicable or transmissible diseases. It has been found that practically all transmissible diseases may be put into four classes. While it seems impossible entirely to avoid these infectious diseases, the doctor gives a set of rules which if followed will largely tend to prevent them.

A large portion of the book deals entirely with the transmissible diseases and their prevention. A very important disease that is discussed is typhoid fever. Every case of typhoid it has been said, comes from some one's ignorance or neglect, and certainly every case should call for a most rigid investigation. A safeguard against this disease and of the greatest importance, is vaccination. Filth bears the cause of the disease; cleanliness is the means of prevention and vaccination is an additional safeguard. Scarlet fever is another disease that is rapidly becoming a conquest of science. Since 1921 epoch making progress has been made and this disease is rapidly approaching control. Rather than discuss the treatment of scarlet fever, considerable space is given to its prevention. The prompt administration of the antitoxin is very important in the prevention of this disease and an application of the principles laid down in the book may almost or possibly eradicate it. The quite common diseases, which mothers naturally expect their children to get, those of whooping-cough, chicken pox, mumps and the measles, seem to continue, with no hope of their being entirely eradicated. However, science, in recent years has made such contributions to the understanding of disease, that it is now possible to prevent complications, such as pneumonia or even tuberculosis. Under modern living conditions, measles and whooping-cough are inevitable. Therefore let the children get these diseases

early, under the best possible conditions and with the use of the serum and get the ordeal over.

Experience has abundantly demonstrated that epidemics can be foreseen and forestalled by scientific methods. Such methods cost money, but they also save money, distress and suffering and they even save folks from death and disability. Public health is something that can be had when we are willing to pay the price. Ordinarily we do not give concern to our health until it is lost and then we are willing to pay any price to get it back. Three things are therefore necessary to the eradication of most of the transmissible diseases in a progressive community: knowledge, funds and organization.

* * *

A contribution of great value and a book that has been accepted as the best introduction to the study of eugenics is that written by Dr. Michael F. Guyer, entitled "Being Well-Born" (The Bobbs-Merrill Company). The first edition of this work was published more than ten years ago. During the interim great advances have been made through study and research, and all this new knowledge is incorporated in the present volume. One of the most interesting additions is the discussion of the mechanics of development. There is new data concerning cancer and the inheritance of predisposition towards it. Some recent aspects of the old question of the relative importance of heredity and environment are taken up.

The opening chapters of the book deal with the subject of heredity and the methods used in the study of it. One of the most significant processes at work in society today is the awakening of the civilized world to the rights of the child, and it is coming to be generally realized that its foremost right is the right to be well-born. It is a commonplace fact that offspring resemble their parents. Therefore, recognizing the fact that children exhibit various characteristics similar to those of their parents, the right of the child to be well-born is all the more emphasized. Since what a child becomes is determined so largely by inborn characteristics, it is of the greatest importance that parents recognize the seriousness of this fact. We must see clearly then that even the best teaching and parental training has obvious limits.

Dr. Guyer presents certain facts concerning the natural endowment of the child. Space is given these facts for a full comprehension of the nature of the physical mechanism by which hereditary traits are handed on from generation to generation. That readers may fully appreciate the facts gathered concerning man, a re-

view of the more significant principles of genetics, as revealed through experiments in breeding plants and animals, is also undertaken by the author. The main application of these principles to man is pointed out in a general discussion of human heredity.

The closing chapters of this volume present discussions of facts about human heredity, race betterment through heredity, and prenatal influence. Certain diseases are found to be transmitted by affected members of a family, yet an occasional lapse of a generation may occur before the disease is manifested. While defects may be found, they are more likely to be of a recessive than of a dormant type. The obscure nature of recessives makes them more difficult to deal with than the dominant defects. The problem of tuberculosis is an extremely complex one. The degree of inheritance of predisposition to this disease is not known. In the past some writers have maintained that tuberculosis is mainly a question of infection and not of inherent susceptibility, but steadily accumulating evidence all points the other way. Where the predisposition exists, the chances of infection are still, even under conditions of present day sanitation, very great.

In the chapter on prenatal influences, the author deals frankly with the dread disease, syphilis. The extreme dangers to which parents are subjecting their daughters if they do not demand a clean bill of health on the part of the prospective husbands are obvious. Prenuptial medical inspection is certainly more necessary to the welfare of society than anything that could be demanded. Some states already have compulsory prenuptial medical inspection.

This book deserves a wide reading because it is recognized as one of the best American texts on eugenics. It is a complete and accurate statement of all that is really known of the science of eugenics and its application to human life. A very strong feature of the book is the skillful way in which the author has handled the exceedingly important subjects of alcoholism and venereal diseases as related to prenatal influences.

* * *

Dr. Wm. S. Sadler has presented to the public this year a very instructive and worth while book entitled "The Truth About Heredity" (A. C. McClurg & Company). Without doubt few have equalled the works of Dr. Sadler, who gives definite information in clear, nontechnical language. This book is a concise explanation of heredity and is written especially for laymen.

A new science began to develop with the dawn of the twentieth century—the science

of genetics. This volume deals with genetics, a science which constitutes the very foundation of our efforts in the direction of human betterment and race improvement. Genetics is the science of heredity. It is safe to say that without doubt more facts regarding inheritance in plants, animals and the human species have been unearthed in the past twenty-five years than have been accumulated in the entire previous history of mankind. Dr. Sadler has in the book under review very carefully examined the whole subject of inheritance for his readers.

The volume represents the efforts of a medical man to summarize the genetic knowledge of the present day, and then to present this information in plain, simple English for the instruction of the laymen. As the author presents it, the real need is a serious consideration of the known facts respecting genetics, and an intelligent study of the established and generally recognized laws governing the inheritance of well known family traits and certain individual characteristics. The nature of the inheritance factors for any given trait cannot always be determined by mere outward and superficial appearances.

To obtain a clearer view and more intelligent comprehension of the subject, Dr. Sadler discusses first the ancient genetic beliefs. The theory of evolution seems to have originated with the Greeks twenty-five hundred years ago. He presents the views of a number of Greek philosophers. It is an accepted fact that the theory of organic evolution reached its highest development in the teachings of the most remarkable of Greek philosophers, Aristotle. Indeed, the theory of evolution made little or no progress from the time of Aristotle until well after the time of the intellectual Renaissance of the Middle Ages. The nineteenth century was occupied with the study of the "Origin of Species," but the present century is being devoted more largely to that of the "origin of the individual." Our great source of information in genetics is now based on the results of careful observations in the plant world and upon scientific animal experimentation. The science of genetics has grown out of cooperative work between the botanist and the zoologist. Reproduction is the basis of the study of genetics; and it is important to understand the different modes of reproduction. Genetics prepares the citizen rightly to understand himself and also prepares him intelligently to relate himself to scores of social and other problems. Hereditary resemblances and heredi-

tary differences are not in conflict—they grow out of the same identical inheritance mechanism resident in the germ plasm. The tendency to differ is characteristic of living things. Environment, nutrition, training, and education can produce marked changes in the individual, even though such changes are not inheritable.

Most interesting chapters are those dealing with the theory of natural selection and the practical problems involved therein. Natural selection has turned out to be one of the most influential ideas that ever acted upon the teaching of the biological sciences. Natural selection and survival of the fittest are one and the same doctrine. Adaptation to environment sometimes depends as much on retrogression as on progression. Not only does survival of the fittest determine the direction of natural selection, but it further perpetuates this tendency because those who survive reproduce and leave offspring; those who perish suffer the extinction of their line.

A thorough summary is given at the close of the book on heredity and environment and the application of genetics to man. The opening years of our present century were characterized by the advent of the biologist with his observations and experiments having to do with heredity and resulting in the founding of a new science—eugenics. Surely the time has come to take a more rational and balanced view of this question of heredity and environment.

CORRESPONDENCE

London, England,
November 21, 1927.

MENTAL HOSPITALS IN ENGLAND

To the Editor:

Perhaps the English are the "softest" nation on earth, as Dr. Gillespie puts it. At any rate the amount spent here for doles, pensions, old age, poor relief and public and quasi public hospitals, homes, infirmaries, asylums and retreats of one kind or another lays a huge tax on this nation. London itself has some fourteen hospitals for the insane and one for the feeble-minded, "The Manor." Four of these are located at Epsom, half an hour's ride by train from Waterloo Station where the L. C. C. purchased a thousand acres or more some years ago. West Park, a new mental hospital which I visited Saturday, is modern in all respects and well arranged for administration and classification. All cases are admitted to a receiving hospital where they are kept until they are thoroughly examined physically and mentally and a judgment formed as to whether they are probably recoverable cases. If so they remain in this section and when well enough are transferred to a convalescent building nearby and are not committed at all. This is a plan that we should follow if we could substitute a well equipped receiving hospital for the observation ward which has no equipment except bars and an iron door.

Maudsley Hospital, also recently opened, does much of the early diagnostic work for the group of mental hospitals and the fully equipped laboratory which was at Claybury during Mott's activity is now at Maudsley. All members of the medical staff are required to hold a degree in psychological medicine except that a young doctor may be taken on and given opportunity to acquire his degree while serving on the wards. If he is diligent he can do this in two years. If he isn't diligent he goes out. Of course no officer is ever disturbed for political reasons.

Dr. R. D. Gillespie who with Dr. Henderson of the Royal Mental Hospital of Glasgow wrote the new textbook on psychiatry of which I wrote a review just before I came over, invited me yesterday to visit him at Cassel Hospital, near Penshurst in Kent. A large country house surrounded by about 100 acres of park and garden is used entirely for functional nervous disorders. Dr. T. A. Ross is director. They accomplish excellent results. I do not know of a similar place in America but I am quite sure one could be successfully developed even as far west as St. Louis.

I have only begun to visit mental hospitals so I may have some further communication to make.

With good wishes,

Sincerely,

M. A. BLISS.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

BUCHANAN COUNTY MEDICAL SOCIETY

The December 7 meeting of the Buchanan County Medical Society was called to order at eight p. m. by Dr. B. T. Quigley, St. Joseph. Twenty-four members were present. The minutes of the previous meeting were read and approved.

The matter of subscribing to Hygeia for the grade school teachers of the public and parochial schools was introduced by the secretary, Dr. W. Roger Moore, St. Joseph, at the request of the Women's Auxiliary of Buchanan County Medical Society.

Dr. C. H. Wallace, Sr., St. Joseph, moved that the Society contribute \$300.00 to the Auxiliary for the same number of Hygeia subscriptions as were paid for by the Society last year. The motion was seconded by Dr. W. D. Webb, St. Joseph, and carried.

It was moved by Dr. Daniel Morton, St. Joseph, that the journal file at the public library be reviewed by the library committee, and that an index to the journal, *Surgery, Gynecology and Obstetrics*, be added. Motion seconded and carried.

On motion of Dr. Morton, duly seconded and carried, a special dinner will be given in connection with the last meeting of this year, December 21, and Dr. Frank G. Nifong, President

of the State Association will be the speaker at this meeting.

Dr. W. T. Elam, St. Joseph, informed the Society that one S. E. Ball, a medical faker and operator of a health center in Excelsior Springs, broadcasts health lectures from one of the radio stations every evening. Dr. Elam suggested that some action be taken by the Society to suppress the broadcasting of such lectures. The matter was referred to the public health and legislation committee.

The following officers were elected to serve during the ensuing year: President, E. A. Gummig, St. Joseph; first vice president, L. H. Fuson, St. Joseph; second vice president, Chas. Greenberg, St. Joseph; secretary, T. L. Howden, St. Joseph; treasurer, J. M. Bell, St. Joseph; delegate for 1928 and 1929, Daniel Morton, St. Joseph; alternate, 1928 and 1929, Lyda Hillyard, St. Joseph; alternate, 1928 and 1929, W. T. Elam, St. Joseph; censor, 1928, 1929 and 1930, W. Roger Moore, St. Joseph.

W. ROGER MOORE, M.D., Secretary.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in the Masonic Hall at Braymer, November 10, at two o'clock. The following members were in attendance: Drs. G. S. Dowell, H. H. Patterson and C. L. Woolsey, Braymer; Tinsley Brown, Hamilton; B. F. Carr and C. H. Wilbur, Polo; E. A. B. Thompson, Breckenridge; O. C. Kilbourn, Cowgill. Drs. Ralph W. Holbrook and Clyde O. Donaldson, Kansas City, were present by invitation and were accorded the privileges of the Society. The minutes of the June 29 meeting at Breckenridge were read and approved.

Dr. C. L. Woolsey, Braymer, a former member, was reinstated on payment of dues.

Five members were suspended from membership in the Society on account of nonpayment of dues for one or more years.

Dr. Clyde O. Donaldson, Kansas City, gave a moving picture exhibition of the use of X-ray in the treatment of uterine cancer which proved interesting in the manner of technic.

Moving pictures of Lindbergh's flight to Europe and his return were shown by Dr. Ralph W. Holbrook, Kansas City. He said Lindbergh is a normal man which statement was disputed by Dr. Carr who was of the opinion that he is an abnormal man. This brought out an extended discussion, one of the best given on the various subjects discussed.

The place of meeting of the 12th Councilor District was taken up and the Society voted for Cameron as the most logical meeting place.

TINSLEY BROWN, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in the Chamber of Commerce rooms, Cape Girardeau, November 14, 1927. The meeting was called to order by the president, Dr. Noe F. Chostner. The following members answered the roll call: Drs. A. E. Dalton, N. F. Chostner, A. M. Murphy, P. R. Williams, E. H. G. Wilson and W. E. Yount, Cape Girardeau; W. K. Statler, Oak Ridge.

The resolutions on the death of Dr. Robert T. Henderson, Jackson, presented by the committee, were accepted and a copy of the resolutions was order sent to the State Journal.*

Dr. W. E. Yount gave a very interesting re-

port on the differential diagnosis between folliculosis and trachoma. A good discussion followed, entered into by all present.

Officers elected for the year 1928 are: President, W. W. Ford, Gordonville; vice president, A. E. Dalton, Cape Girardeau; secretary, A. M. Murphy, Cape Girardeau; treasurer, O. L. Seabaugh, Cape Girardeau; censor, W. N. Howard, Cape Girardeau; delegate to State Meeting, P. R. Williams, Cape Girardeau.

A. M. MURPHY, M.D., Secretary.

FIFTEENTH COUNCILOR DISTRICT MEETING

The Cass and Johnson County Medical Societies, comprising the fifteenth councilor district, with members of the Bates, Lafayette and Henry County Medical Societies, convened at Warrensburg, Tuesday, November 1, at 1:30 p. m. The following were in attendance: Drs. J. I. Anderson, Warrensburg; J. T. Anderson, Warrensburg; Edward Andruss, Holden; A. H. Baldwin, Pleasant Hill; J. W. Bolton, Warrensburg; Samuel Campbell, Harlowton, Montana; Clyde O. Donaldson, Kansas City; T. J. Draper, Warrensburg; O. B. Hall, Warrensburg; Jabez N. Jackson, Kansas City; George E. Knappenberger, Kansas City; Francis M. McCallum, Kansas City; Samuel A. Murray, Holden; E. Y. Pare, Leeton; W. R. Patterson, Warrensburg; H. F. Parker, Warrensburg; J. E. Porter, Knobnoster; J. A. Powers, Warrensburg; L. J. Schofield, Warrensburg; W. G. Thompson, Holden; Dr. Williams, Kansas City.

Dr. Jabez N. Jackson, Kansas City, President of the American Medical Association, was the principal speaker at the meeting. Dr. Jackson conducted a clinic and from his examination of patients he drew as his subject, "Differential Diagnosis Between Appendicitis and Colitis," which he discussed in detail.

Dr. Clyde O. Donaldson, Kansas City, gave an X-ray demonstration showing the radium treatment of the internal organs of the body.

Dr. George Knappenberger, Kansas City, examined patients for heart and lung diseases.

Dr. Francis McCallum, Kansas City, conducted a clinic on bladder and kidney diseases.

A banquet was given following the clinic at the Estes Hotel with the wives of the Doctors as guests. More than thirty were in attendance. Dr. L. J. Schofield, Warrensburg, presided as toastmaster.

Dr. Jabez N. Jackson gave a talk on medical education.

Dr. H. F. Parker, Warrensburg, told of his recent visit to hospitals in Berlin, Paris, Vienna, Munich and other European cities.

Mr. Hendricks, President of Warrensburg College, Dr. George Knappenberger, Kansas City, and Miss Greenough, of the St. Louis Division of the American Red Cross, were also called upon to make a talk.

T. J. DRAPER, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The Grundy County Medical Society met in regular session December 6, 1927, and elected the following officers to serve during the year 1928: President, Deborah Doan Phillips, Trenton; vice-president, Jesse F. Fair, Trenton; secretary-treasurer, E. A. Duffy, Trenton; delegate, O. R. Rooks, Trenton; alternate, Bertha E. Sheetz, Trenton; board of censors, J. F. Fair, Trenton, 1928, 1929 and 1930; T. E. Moore, Trenton, 1928 and 1929; W. H. Winningham, Trenton, 1928.

As far as we know Dr. Bertha E. Sheetz, Trenton, was the first woman physician to hold the office of

* See page 31.

president of a county medical society. She held that position in this Society in 1925. As a result of the last election of officers Dr. Deborah Doan Phillips, Trenton, is the second woman to hold the office of president of a county medical society.

Oliver F. Duffy, son of Dr. E. A. Duffy, Trenton, is a freshman at the St. Louis University School of Medicine.

E. A. DUFFY, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

Meeting of November 8, 1927

The Society met in regular session November 8, at the Joplin Y. M. C. A. at eight p. m. Members present: Drs. O. L. Alberty, Carl Junction; E. J. Burch, L. B. Clinton, E. D. Hatcher, H. A. LaForce and E. J. McIntire, Carthage; L. C. Chenoweth, A. B. Clark, S. A. Grantham, R. E. Myers, R. L. Neff and J. L. Sims, Joplin; B. M. Henry, Alba. The minutes of the last meeting were read and approved.

Dr. S. A. Grantham reported a case of fracture of the elbow in which the two condyles were separated from the shaft. Under the open method they were brought into place and the inner condyle fixed by means of a bone peg. The arm was placed in an internal angular splint. One week later the X-ray showed the peg had slipped and instead of being in its proper position as placed was lying along the outer side of the shaft of the humerus.

Dr. L. B. Clinton read a most interesting paper on "Traumatic Surgery." He dwelt quite extensively on the different types of injuries of quarry and railroad workmen. In his report of a large group of cases fractures led the list with sprains second and hernias last; infected wounds of the hand caused more disability than any other injury. Special stress was laid upon asepsis more than antisepsis in the treatment of traumatic injuries and mercurochrome supplanted iodine in practically all conditions.

Brief discussions were given by Drs. S. A. Grantham, R. L. Neff, H. A. LaForce, L. C. Chenoweth and E. D. Hatcher.

Meeting of November 15, 1927

The regular meeting of the Society was held at the Joplin Y. M. C. A. November 15 at eight p. m. The following members were present: Drs. A. B. Clark, H. A. Leaming, S. H. Miller, J. F. Morgan, R. E. Myers, J. L. Sims and R. A. Thornton, Joplin. Visitor, R. C. Lowdermilk, Galena, Kansas. Guest present: Dr. Ralph Duncan, Kansas City, Missouri. The minutes of the previous meeting were read and approved.

Dr. R. C. Lowdermilk reported the following case: A young man about eighteen years of age presented himself complaining of cough and dyspnea; pulse 150, thready, irregular and feeble. One ear very much swollen. The patient stated that ten or fifteen minutes previously while walking along the street something undoubtedly stung him. His breathing was very noisy and on further examination he showed a generalized urticarial angioneurotic edema. He was given one-third milligram of adrenalin chloride hypodermically. Five minutes later this was repeated. The patient immediately began to show improvement and in twenty minutes he was normal in every respect. The causative factor was probably a hornet sting.

Dr. A. B. Clark told of an incident in which he himself had a marked reaction lasting for more than eighteen hours following a bee sting. The complaints were chiefly nausea and vomiting following considerable pain at the onset.

Dr. J. L. Sims reported a case of double cleft palate and hair lip in a recently delivered baby. There was also a bilateral talipes equinus and the second, third and fourth fingers of the left hand possessed only two phalanges. A constriction was noted at the base of each digit which was very marked.

Dr. H. A. Leaming reported having attended a primipara twenty years of age in which labor began at 2 a. m. and ended at 8:30 a. m. Previous history negative. Physical examination showed nothing abnormal. Labor was perfectly normal. Fetal heart beats were heard up to within a few minutes before birth but, strange to say, the baby never breathed although it had a good color and seemed normal in every respect. The cord was not around the neck but just over one shoulder.

Dr. S. H. Miller reported a case of lues gaining two or three pounds a week on antiluetic treatment. Unfortunately the condition had been previously diagnosed as tuberculosis.

Dr. Ralph Duncan reported a case previously diagnosed as diabetes showing typical syphilitic pancreatitis. He emphasized the importance of a careful complete physical examination which in this case would probably have shown the true condition in the first place.

Dr. R. E. Myers gave the following case report: Mrs. G., aged 22, housewife, married, one living child, two miscarriages. The father died of tuberculosis, mother of diabetes; family history otherwise negative. However, she stated that her husband had a chancre in November, 1926. Present illness began in November, 1926. Complained of epigastric pain, nausea, vomiting, chest pains, nervousness, numbness of the hands and feet and diarrhea for the first three months. Physical examination revealed the patient very much under nourished; tenderness in the epigastric region; moist rales in the apices and coarse breathing in the bronchial areas. Fluoroscope showed large cavity in the right lung. Urine showed trace of albumin and many white cells. Sputum showed tubercle bacilli. Wassermann, four plus. Diagnosis, advanced pulmonary tuberculosis and syphilis. Until recently no diagnosis of tuberculosis had been made and the patient was being treated solely for the luetic condition.

Meeting of November 21

The Society met in regular session November 21, at the Joplin Y. M. C. A. at eight p. m. with the following members present: Drs. J. W. Barson, L. C. Chenoweth, A. B. Clark, H. W. Dickerson, R. E. Myers, R. L. Neff, C. T. Reid, J. L. Sims and A. R. Snyder, Joplin; E. J. Burch and E. D. Hatcher, Carthage. Visitor, R. C. Lowdermilk, Galena, Kansas. The minutes of the last meeting were read and approved.

Dr. J. W. Barson presented a case of Raynaud's disease of fifteen months' duration. The parts affected were the forearms and hands. The patient was receiving K. I. internally and heat locally. He was a man thirty-six years of age with a negative past history.

Dr. R. C. Lowdermilk reported a case of hay asthma of thirty years' standing in a man seventy years of age. An attack began about two months ago with nightly seizures. After two weeks of

specific pollen treatment he was discharged with no symptoms whatever.

Dr. R. E. Myers gave a most interesting paper on "Renal Infections" classifying them in two great groups, namely, descending and ascending, and citing the chief causes as mechanical and chemical. The predominant organism found in these conditions is the colon bacilli, ranging from 75 per cent. and upward. The essayist laid particular stress upon systematic examination with special reference to the "phthalein" tests and microscopic examinations in all urinalyses. In relation to the symptoms pain may be intermittent. Under treatment the removal of all foci of infection is the chief factor, followed by the urinary antiseptics, especially hexylresorcinol and hexamethylenamine, and surgery when indicated.

Brief discussions were given by Drs. Barson, Chenoweth, Clark, Hatcher, Lowdermilk and Reid.

Meeting of November 29

The regular meeting of the Society was held November 29 at the Joplin Y. M. C. A. at eight p. m. The following members were present: Drs. L. C. Chenoweth, A. B. Clark, R. E. Myers, R. L. Neff, R. A. Thornton and J. L. Sims, Joplin. Visitor, R. C. Lowdermilk, Galena, Kansas. The minutes of the previous meeting were read and approved.

Dr. A. B. Clark reported two cases of influenza, one a man twenty-five years of age. Onset showed a temperature of 104° with a bilateral bronchial congestion and an intestinal affection with pain, nausea and vomiting. The other was a woman fifty-five years of age who presented practically the same characteristics with especially marked pains in the abdomen relieved only with opiates.

Dr. R. C. Lowdermilk gave a history of a case of grand mal. A man, aged 35, presented himself July 4, giving a negative family history. His present trouble began twenty years ago. The patient stated that he had always had the aura before the attacks. The seizures occurred day or night averaging about one a week. Three months ago he began taking bromides. On inspection he showed a typical bromide rash. He was placed first on luminal, but due to the depression it caused it was withdrawn. A specific protein was given intracutaneously with no results. Intramuscular injections of milk were tried with no results. Coley's toxins produced a marked reaction with no beneficial results. Lastly, intravenous injections of peptone were instituted. Some shock followed, but up to the present time he has had no other seizures.

Dr. R. C. Neff presented a case of a boy one year of age, presenting a swollen nose and upper lip; ear drums slightly reddened; throat negative. The following day there was some pus discharge from the nose. A smear showed diplococci with streptococci and some bacilli. A six hour culture showed only streptococci. A twenty-two hour culture showed pure pseudodiphtheria. Ten thousand units of diphtheria antitoxin were given. At that time the temperature was 105° (axillary). The following day the temperature had dropped to 103° and in twenty-four hours was normal. The swelling and discharge had disappeared, having begun to disappear before the antitoxin was administered. The child made an uneventful recovery.

Dr. L. C. Chenoweth gave a report of a case of

dislocation of the astragalus upward and forward. X-ray showed some small spicules of bone in the surrounding ligaments.

Meeting of December 6, 1927.

The Society met in regular session December 6, 1927, at the Joplin Y. M. C. A. at eight o'clock. Members present: Drs. J. W. Barson, L. C. Chenoweth, A. B. Clark, A. M. Gregg, M. B. Harutun, R. M. James, S. H. Miller, J. F. Morgan, R. E. Myers, R. L. Neff, H. C. Powers, J. L. Sims and R. A. Thornton, Joplin; W. R. Gaddie, Duenweg; E. D. Hatcher, Carthage; B. M. Henry, Alba. Visitor: R. C. Lowdermilk, Galena, Kansas. The minutes of the last meeting were read and approved. No unfinished business was presented. No papers or case reports were called for.

A letter of thanks from Dr. R. M. Stormont, Webb City, for the floral wreath and expressions of sympathy in his recent bereavement, was read.

President L. C. Chenoweth announced, as previously notified, that we had come to the date of the annual election of officers of the Society for the coming year, 1928.

In a call for nominations for president the following were named: Drs. John L. Sims, R. M. James, E. J. McIntire, R. E. Myers, J. W. Barson, E. D. James, R. L. Neff and M. B. Harutun. On the fourth ballot the results were: John L. Sims 11, E. D. James 5. Dr. Sims was declared elected president.

For vice president the following were nominated: Drs. E. J. McIntire, W. R. Gaddie, S. H. Miller, B. M. Henry, A. B. Clark, R. E. Myers, E. D. James, A. M. Gregg, J. F. Morgan, J. W. Barson, H. C. Powers and E. D. Hatcher. Results of the fourth ballot were: E. D. Hatcher 9, W. R. Gaddie 3, J. W. Barson 3, A. M. Gregg 1, R. E. Myers 1. Dr. E. D. Hatcher was announced elected vice president.

Those nominated for secretary were: Drs. H. A. Leaming, H. W. Dickerson, S. H. Miller, R. E. Myers and A. M. Gregg. On the third ballot the results were as follows: R. E. Myers 11, A. M. Gregg 5, S. H. Miller 1. Dr. Myers was declared elected secretary.

On motion, duly seconded, the rules were suspended and the secretary was instructed to cast the vote of the Society for Dr. M. C. Shelton, Joplin, as treasurer. The secretary cast the vote and Dr. Shelton was elected.

Under the same procedure Dr. J. W. Barson was elected censor for three years to succeed Dr. S. H. Miller, the retiring member.

Under suspension of the rules Dr. L. C. Chenoweth was appointed delegate and Dr. A. B. Clark alternate delegate to the State Association meeting.

On motion, duly seconded, the president-elect was empowered to appoint the member of the auxiliary committee on public policy. Dr. J. L. Sims, president-elect, announced the appointment of Dr. L. C. Chenoweth as the member of this committee.

Meeting of December 13, 1927

The Society convened December 13 at the Joplin Y. M. C. A. at eight p. m. The following members attended: Drs. O. L. Alberty, Carl Junction; J. W. Barson, L. C. Chenoweth, A. B. Clark, A. M. Gregg, R. M. James, S. H. Miller, R. E. Myers, R. L. Neff, C. T. Reid and J. L. Sims, Joplin. Visitors, Drs.

Ralph Duncan, Kansas City, and R. C. Lowdermilk, Galena, Kansas.

A communication from the *Medical Journal and Record* relative to a questionnaire on birth control was read. The matter was placed on the table.

A letter from the extension department of the University of Oklahoma regarding postgraduate courses was read, but no action was taken on it.

Dr. J. W. Barson, Joplin, recited a case of inflammatory rheumatism with iritis, presenting himself about eight months ago giving a history of gonorrhea twenty years previous. He had no dysuria but complained of pain in the prostatic region. The introduction of sounds and filiform bougies into the bladder was not possible. A prostatectomy was done. An autogenous vaccine was made and injected together with the oral administration of urinary antiseptics. The patient made an uneventful recovery except for the slight eye symptoms.

The speaker of the evening, Dr. Charles T. Reid, Joplin, read a lengthy and most interesting paper on "Chronic Cough Due to Sinus Infection," with a report of five cases. Special stress was laid upon the necessity of a careful, thorough, routine examination of all cases regardless of conditions. It was not claimed that all chronic coughs by any means were due to sinus infection, but a large number of cases treated proved that in many instances where all other measures had failed the clearing up of pathological conditions existing as in the throat, pharynx, nose, or in some one or all of the sinuses, would stop the cough.

A good discussion followed by Drs. A. M. Gregg, A. B. Clark, J. W. Barson, S. H. Miller, R. E. Myers, R. L. Neff and J. L. Sims.

JNO. L. SIMS, M.D., Acting Secretary.

LINN COUNTY MEDICAL SOCIETY

The Linn County Medical Society met in Brookfield December 14 and elected the following officers for 1928: President, J. L. Cantwell, Bucklin; vice-president, E. D. Standly, Brookfield; secretary, Ola Putman, Marceline; treasurer, F. W. Burke, Laclede.

A motion was made to send a letter of condolence to the family of Dr. W. B. Scott, of Bucklin, Missouri, who died recently. Seconded and carried.

A paper on "Poliomyelitis" was read by Dr. E. D. Standly, Brookfield, which was well received and freely discussed.

Dr. Ola Putman, Marceline, reported a case of Tularemia recently observed and treated in the hospital at Marceline.

OLA PUTMAN, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of November 1, 1927, Dedication of the New Building

The meeting was called to order at 9:00 p. m. by the president, Dr. Charles A. Vosburgh.

Dr. Vosburgh made a few introductory remarks concerning the dedication of the building, and expressed the regrets of the Society over the inability of two speakers to be present, Dr. Jabez N. Jackson, President of the American Medical Association, Kansas City; Victor J. Miller, Mayor of St. Louis.

Addresses were given by Dr. McKim Marriott, Dean of the School of Medicine, Washington University; Reverend Alphonse M. Schwitalla, Regent of the St. Louis University Medical School; Mr. Isaac H. Lionberger, attorney; Dr. Amand Ravold, ex-president of the St. Louis Medical Society.

The meeting adjourned at 10:40 p. m. to the banquet hall for refreshments and dancing.

Attendance 800.

Meeting of November 8, 1927

The meeting was called to order at 8:40 p. m. by the first vice-president, Dr. John Green.

The minutes of the meetings of October 25, November 1 and November 4 were read and approved.

Dr. L. R. Sante exhibited a number of patients with malignancies that had been treated with radium.

The regular scientific program consisted of the following:

"Deep X-Ray Therapy," by Dr. Sherwood Moore.

"Radium Implantations," by Dr. L. R. Sante.

Discussion by Drs. F. J. Taussig, Joseph C. Peden, C. F. Sherwin, Norvelle Wallace Sharpe.

Attendance 100.

Meeting of November 15, 1927

The meeting was called to order at 8:45 p. m. by the first vice-president, Dr. John Green.

The minutes of the previous meeting were read and approved.

Dr. Green announced, for the Women's Auxiliary, that the magazine "Hygeia" had been endorsed by the Missouri State Medical Association at Sedalia and that St. Louis was below its quota in the sale of subscriptions. For this reason the Auxiliary would give the benefit of the liberal commission to the Society for any subscriptions turned in during November and December, and the magazine, which ordinarily costs \$3.00, would sell for \$1.75.

The scientific program consisted of the following:

"Acute Respiratory Infections in Adults," by Dr. Augustus P. Munsch.

"Acute Respiratory Infections in Infancy and Childhood," with lantern slides, by Dr. Joseph P. Costello.

Discussions by Drs. E. P. Buddy, Jules M. Brady, French K. Hansel.

Attendance 125.

Meeting of November 22, 1927

The meeting was called to order at 8:40 p. m. by the president, Dr. Charles A. Vosburgh.

The minutes of the previous meeting were read and approved.

The scientific program consisted of the following:

"Vesicovaginal Fistulae: Closure in Eleven Consecutive Cases," by Dr. Edgar F. Schmitz.

Discussion by Drs. Frank Hinchey, Marsh Pitzman, Roland Hill, Willis Young, Francis Reder; Dr. Schmitz closing.

"Bunions," with lantern slide demonstration, by Dr. Alexander E. Horwitz.

Discussion by Drs. Albert J. Key, Joseph E. Wheeler; Dr. Horwitz closing.

Dr. Paul Titterington spoke concerning a meeting of the Radiological Society of North America which would take place in New Orleans on November 28.

Dr. Horwitz moved that the St. Louis Medical Society extend an invitation to the above society to hold its next annual meeting in St. Louis. Seconded by Dr. Pitzman. Carried.

Dr. Vosburgh announced the possibility of the 1928 conference of the Interstate Post-graduate Medical Association of North America being held in St. Louis.

He also announced that the Program Committee had arranged to have five reels of motion pictures of outdoor subjects shown before the General Society on November 29, under the auspices of "Field and

Stream," a prominent American Sportsmen's Magazine.

Attendance 95.

Meeting of November 29, 1927

The meeting was called to order at 8:45 p. m. by the president, Dr. Charles A. Vosburgh.

The minutes of the previous meeting were read and approved.

The president announced that a dinner would be given in honor of Dr. Fred H. Albee, of New York, at the Coronado Hotel on December 6, at 6:15 p. m.

Mr. Julian Scott, representing the Missouri League for the Hard of Hearing, gave a five-minute talk concerning that organization.

Five reels of motion pictures of outdoor subjects were shown under the auspices of "Field and Stream," a prominent American sportsmen's magazine.

Dr. Vilray P. Blair, representing the Council of the Society, presented a proposed change in the By-Laws increasing the annual dues from \$20.00 to \$30.00.

On motion of Dr. C. E. Burford, seconded by Dr. Henrietta A. S. Borck, the change was adopted.

Attendance 450.

Special Meeting of November 4, 1927

The meeting, which was held for the purpose of nominating officers for the year 1928, was called to order at 8:30 p. m. by the president, Dr. Charles A. Vosburgh.

The chair appointed Dr. Hillel Unterberg as parliamentarian for the evening, and Drs. R. B. H. Gradwohl, Joseph C. Peden, and Leo Bartels as tellers.

Dr. H. S. McKay moved that Dr. Charles H. Neilson be nominated for president. Seconded by Dr. J. Curtis Lyter.

Dr. O. A. Ambrose moved that Dr. Joseph F. Mayes be nominated for president. Seconded by Dr. Clarence Martin.

On motion of Dr. F. G. Pernoud the nominations of Drs. Neilson and Mayes for president were closed.

Dr. John Green nominated Dr. Drew Luten for first vice-president. Seconded by Dr. O. A. Ambrose.

Dr. James Moores Ball nominated Dr. Clarence Martin for first vice-president. Dr. Martin withdrew.

On motion the nominations for first vice-president were closed with a unanimous vote for Dr. Luten.

Dr. J. J. Burdick nominated Dr. F. J. V. Krebs for second vice-president.

On motion the nominations for second vice-president were closed with a unanimous vote for Dr. Krebs.

Dr. Joseph Peden nominated Dr. Roland S. Kieffer for secretary.

On motion of Dr. Fred Bailey, seconded by Dr. R. J. Payne, the nominations for secretary were closed with a unanimous vote for Dr. Kieffer.

Dr. Burdick withdrew the name of Dr. Krebs for second vice-president in order that he might be eligible to nomination for councilor.

Dr. Richard Kring nominated Dr. J. Curtis Lyter for second vice-president.

On motion the nominations for second vice-president closed with a unanimous vote for Dr. Lyter.

The following were nominated for councilors: C. A. Vosburgh, 92 votes; F. J. V. Krebs, 80 votes; John F. Hardesty, 65 votes; C. F. Pfingsten, 50 votes; John Green, 48 votes; Wm. Kerwin, 44 votes; Ellis Fischel, 37 votes; M. G. Seelig, 34 votes; Herman A. Hanser, 26 votes; Wm. D. Aufderheide, 21 votes; F. G. Pernoud, 11 votes.

The following were nominated for councilors for an unexpired term of two years: R. B. H. Gradwohl, 35 votes; Herman A. Hanser, 21 votes; Wm. D. Aufderheide, 10 votes.

On motion of Dr. Joseph Grindon a committee, consisting of Drs. Fred Bailey, E. C. Funsch, Clarence Martin, John W. Stewart, Hillel Unterberg, was appointed to submit twenty names as nominees for delegates to the Missouri State Medical Association. The following were nominated: Olney A. Ambrose, Wm. D. Aufderheide, Joseph P. Costello, Wenzel C. Gayler, John Green, Charles E. Hyndman, Roland Hill, A. R. Kieffer, F. C. E. Kuhlmann, Eugene F. McCarthy, Harvey S. McKay, Harry M. Moore, Augustus P. Munsch, William G. Patton, Joseph C. Peden, Claude D. Pickrell, Marsh Pitzman, Edgar F. Schmitz, Cleveland H. Shutt, Ralph L. Thompson. Attendance 125.

Meeting of the Council, October 12, 1927

The meeting was called to order at 8:15 p. m. by the president, Dr. Charles A. Vosburgh.

The minutes of the previous meeting, June 29, 1927, were read and approved.

A letter from the St. Louis Convention and Publicity Bureau concerning the 1928 meeting of the Association of Surgeons of the Pennsylvania Railroad was read.

Dr. Funsch moved that the Council cooperate with the Convention Bureau in extending an invitation to the above Association and that the Society's Building be offered for its use during the meeting. Seconded and carried.

Dr. Clarence Martin reported for the Membership Committee, recommending the following applicants, all of whom were elected:

Active—Otto F. Aufderheide, 1518 E. Grand Blvd.; Leon Bromberg, 3720 Washington Ave.; Warren H. Cole, 602 S. Euclid Ave.; Peter A. Eck, 4701 St. Louis Ave.; Bernard L. Green, 316 Beaumont Medical Bldg.; Solon P. Harris, 5502 Easton Ave.; Robert E. Keaney, Carleton Bldg.; Elmer A. Lansche, 4885 Natural Bridge; Edward S. Murphy, Roosevelt Bldg.; F. William Runde, 1031-4 Missouri Bldg.; Val B. Satterfield, 301 Humboldt Bldg.; Otto J. Schwer, 2105 So. Broadway; William Carl Stude, 214 University Club Bldg.; Matthew W. Weis, 1005a McCausland Ave.

Junior—Carl C. Beisbarth, Grand and Gravois; Joseph Magidson, City Hospital; James Robert Nakada, 2253 Nebraska Ave.; Arthur C. Simon, 1020 Paul Brown Bldg.; John E. Skaff, Jewish Hospital; Lewis M. Webb, 1186a S. Kingshighway.

The application of Dr. Dan Tucker Miller for active membership by transfer from the Vigo County (Indiana) Medical Society was presented by the Membership Committee for the first reading.

The current report of the Library Committee was read by Dr. Hardesty, and on motion of Dr. Mayes, seconded by Dr. Schluter, the report was accepted.

On motion the report of the Program Committee, which was read by the secretary, was accepted.

Dr. Ambrose reported orally for the Ethics Committee, stating that no business had come to the attention of the committee since its last report.

Dr. Funsch, for the House Committee, reported that the lounge decorations had been finished and that the furnishings had been selected, subject to the committee's approval after inspection. He also reported that approximately \$3,000 remained in the fund subscribed for this purpose which would be expended later for additional furnishings.

Dr. Neilson, for the House Committee, reported that he had received a letter from the St. Louis Den-

tal Society asking that the question of rental of the Society's building for their meetings be reconsidered.

Dr. Bailey suggested that the actual cost of heating and lighting the auditorium be determined and that it be rented to the dental society on that basis.

Dr. Schluter moved, seconded by Dr. Bailey, that final decision on this matter be left to the discretion of the House Committee. Carried.

Dr. Lawrence Schlenker, speaking for the Trudeau Club, stated that this organization had approximately fifty members with annual dues of \$1.00 each, and that for this reason it would be manifestly impossible for them to pay \$10.00 rental for their monthly meetings. He expressly stated that the Trudeau Club was asking no special discrimination, but that the question of rental be reconsidered.

The House Committee was instructed to reconsider the question of rentals to sections of the Society.

A letter from Dr. Norvelle Wallace Sharpe was read announcing a proposed series of fortnightly conferences for Reserve Corps officers of the 102d Division and asking if space in the Society's building would be available for these meetings.

Dr. Funsch moved that this organization be considered the same as sections of the Society and that a charge of \$10.00 for each meeting be made.

Dr. Bailey amended the motion to the effect that the Society retain the right to withdraw its decision at any time. The motion carried as amended.

A letter from the St. Louis Clinics was read suggesting a series of weekly lectures on subjects of interest to the profession, to be given by the St. Louis Clinics, under the auspices of the St. Louis Medical Society.

No action was taken on this matter.

It was moved by Dr. Bailey, seconded by Dr. Mayes, that the House Committee be authorized to obtain bids for enclosing the Librarian's office.

Dr. Krebs read the report of the Finance Committee, which was accepted.

Dr. Louis H. Behrens announced that the Society had been left a bequest of \$1,000 by the late Dr. William F. Kier.

Dr. Bailey reported verbally for the Disaster Relief Committee on the Society's activities in volunteer work after the recent tornado in St. Louis. On motion the report was accepted.

Dr. Bailey moved, seconded by Dr. Mayes, that the Council express its thanks and appreciation, through the columns of the *Bulletin* to those members of the Society who functioned in the activities of the Society during the recent tornado disaster and that letters of thanks be sent to the Physicians Exchange and the Boy Scouts. Carried.

Written reports from the members in charge of the First Aid Stations established by the Society for disaster relief work after the tornado were read and filed.

Dr. Vosburgh commented on the deficiency in cash in the general fund of the Society and requested an expression from the members of the Council on the question of raising the annual dues.

Dr. Ravold moved that the interest from the Bartscher fund for the current year be transferred to the general fund to help defray the expenses. Seconded by Dr. Bailey. Carried.

Dr. Funsch moved that the president be authorized to appoint a committee to submit to the General Society plans for increasing the annual income by raising dues. Seconded by Dr. Neilson. Carried.

The following committee was appointed: Drs. Neilson, Ravold, Bailey, Vosburgh, Kieffer.

Dr. E. Lee Myers commented on certain practices of some casualty insurance companies which he considered an abuse of physicians.

Dr. Bailey moved that Dr. Myers be thanked for bringing this matter to the attention of the Council. Seconded and carried.

Councilors present: Drs. Funsch, Bailey, Krebs, Mayes, Neilson, Leighton, Schluter, Hill, Ravold, Vosburgh, Kieffer.

Councilors excused: Drs. Reder and Unterberg.

Councilor absent: Dr. Blair.

Visitors present: Drs. John F. Hardesty, E. Lee Myers, Louis H. Behrens, Clarence Martin.

ROLAND S. KIEFFER, M.D., Secretary.

BOOK REVIEWS

MANUAL OF MEDICINE. By A. S. Woodwark, C.M.G., C.B.E., M.D., F.R.C.P., Physician, Lecturer on Medicine and Dean of the Medical School, Westminster Hospital, etc. Third edition. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$4.75.

This little manual will no doubt be a welcome addition to our already long list of textbooks on medicine. It is in an abbreviated style and condensed form without illustrations. This book will find its best use as a sort of vade mecum for students and the overworked general practitioner who does not have much time for reading. It has been thoroughly revised and brought up-to-date. It covers the entire field of medicine in a concise manner and yet at the same time as completely as it is possible in such a small volume. Undoubtedly there is a well recognized need for such a textbook.

A. C. H.

OBSTETRICS FOR NURSES. By Joseph B. DeLee, M.D., Professor of Obstetrics at the Northwestern University Medical School; Obstetrician to the Chicago Lying-In Hospital and Dispensary. New (8th) Edition, Revised. 12mo. of 635 pages, with 266 illustrations. Philadelphia and London: W. B. Saunders Company. 1927. Cloth, \$3.00 net.

This book is a complete resume of the whole subject of the practice of obstetrics but as has been said by others, it is too complete for a nurses' handbook. It can be recommended however for the nurse who makes a special study of obstetrics, and for the general practitioner of medicine as well.

W. C. G.

THE PSYCHO-PATHOLOGY OF TUBERCULOSIS. By D. G. Macleod Munro, M.D., C.M., M.R.C.P. (Ed.) Oxford University Press. American Branch, 35 W. 32d St., New York City. Price \$1.75.

This small book is a valuable contribution to the fascinating study of psychopathology of tuberculosis. The author devotes several chapters to the discussion of the psychoneuroses in the different stages of the disease, reviewing the ideas of others and offering some of his own views. He especially tries to convey the idea that there is a definite psychical state specifically characteristic of tuberculosis.

The book also contains several chapters on tuberculosis and genius, in which the author discusses the associations and relations of the two, and expresses the view that the toxins of tuberculosis play a part in stimulating the creative power of great minds. Dr. Munro is a great believer of psychotherapy of tuberculosis and devotes considerable space to the subject. The book is well worth reading and will be of great aid to those handling tuberculous individuals.

H. I. S.

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ORIGINAL ARTICLES

TRACHEOTOMY IN ACUTE LARYNGEAL OBSTRUCTION*

O. JASON DIXON, M.D.

KANSAS CITY, MO.

PART I

HISTORY OF THE OPERATION

Tracheotomy was first described by Asclepiades about 150 B. C. and probably ranks as the first surgical operation which was of any considerable value to the patient.

Hippocrates (460-370 B. C.) had already recognized the danger of suffocation from quinsy when he so accurately described a case of laryngeal diphtheria by saying, "When the eyes are affected and prominent, as in those who are strangled; and the face, the gullet, and the neck are on fire, though nothing can be seen on inspection, a pipe should be introduced into the throat to admit air into the lungs."

Little did he realize how nearly he was describing O'Dwyer's method of intubation which was to follow nineteen centuries later. No doubt this recommendation of Hippocrates suggested to Asclepiades the tracheotomy tube.

In the absence of antitoxin to combat such a treacherous disease as diphtheria, it is difficult to understand why tracheotomy did not receive a more welcome reception. But medicine was no different then than it is now, and even such a progressive man as Galen (131-301 A. D.) made no comment as to the advantages of bronchotomy.

Possibly Asclepiades was thinking of the management of diphtheria when he jokingly described ancient medicine as a meditation on death. Gradually, however, we find the operation received with a little more favor.

Fabricius Aquapendente (1537-1619), who was Harvey's teacher at Padua, described bronchotomy as the most important operation

of surgery. "Amongst all the operations practiced on man for his relief, I have always thought," says he, "that it should be placed in the first rank which speedily restores to health those who were at the point of death, and thus stimulates the surgeon to the god Esculapius."

That he was a master in the art of differential diagnosis is shown by his following conclusion: That it (tracheotomy) should be abstained from in difficulty of breathing arising from disease of the lungs and trachea; that the disease ought to be situated exactly in the larynx or above it. Excessive swelling of the tongue, of the tonsils, or uvula are expressly mentioned as indicating bronchotomy. Some restriction is, however, required here, since we have means for dispelling tumefaction of these parts situated above the larynx by more simple means than an incision into the trachea.

No doubt he was trying to prevent the surgeons from performing a tracheotomy on patients who were suffering from asthma, tuberculosis, peritonsillar or retropharyngeal abscess.

That Fabricius was more active with the pen than with the knife is indicated by his confession that he had never performed a bronchotomy. Apparently he was more of an anatomist than a surgeon as he continues: "The veins and arteries of the neck are far removed from the part operated on; there is no nerve at the anterior part of the neck; the muscles are not divided," for he directs that they be drawn aside that the opening may be made between them and concludes by stating that there is no part of consequence exposed to injury in this operation.

In spite of his sound teachings there seems to have been a considerable lack of confidence in the surgeon by the patient. That there was just cause for this is well brought out by a case report of Rodriguez Fonseca in his collection of medical consultations, who relates: "A vigorous woman, aged thirty, with symptoms denoting a quinsy of the first series, i. e., she drew her breath with difficulty; could only rest sitting up; could not swallow at all; her voice was gone and her eyes were prominent although

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

* From the Isolation Department of the Kansas City General Hospital, Kansas City, Missouri.

no redness or swelling was visible in the throat."

Rodriguez recognized her condition as serious and immediately took a pound of blood from her right cephalic vein; two hours later the same quantity was taken from the left arm. The disease was not diminished so at the end of three hours another vein was opened in the right arm and ten ounces of blood were drawn. This did no good so the ranular veins were opened, she was cupped behind the ears, under the chin, and in all parts of the body, from the feet to the arms. Embrocations of warm almond oil were rubbed into the neck; drastic clysters were administered; and notwithstanding all these revulsive measures the patient died in ten hours. The author justifies himself for not having bled the patient from the foot because "there was neither suppression of the menses nor of hemorrhoidal flux, and the fullness was in the upper parts, which is best relieved by derivation."

Had the record of his observations ended here he might have been excused for his mismanagement but his conscience was heavy and he finishes with a confession, either as to his lack of courage or inability to impress his patient, when he says: "There remained one means of relief for the patient, namely, tracheotomy; but to this she would not submit. It is, however, the only remedy to which recourse should be had and it is not dangerous."

As additional evidence of his recognition of the value of the operation he adds that if dogs are hung after the trachea has been opened, as in bronchotomy, it does not kill them. It is therefore proper, according to him, to propose the operation to the patient and his friends, representing to them the extreme danger of the disease, or rather its certainly fatal character. Should they consent to bronchotomy we must boldly undertake it.

Apparently Dr. Rodriguez did not feel competent to perform the operation and was attempting to bolster his own courage. At any rate his research work on the dog stimulated a young Englishman who was not lacking in boldness. The story goes as follows:

A London butcher named Gordon had added to his exchequer some considerable profit as a highwayman. The police were about as efficacious then as today so Mr. Gordon carried on a rather brisk trade for thirty years before he was apprehended. There being no alienists in those days, he was quickly brought to trial and promptly condemned to death. He realized the seriousness of the situation and naturally was quite willing to sacrifice his ill-earned wealth to save his neck. A young surgeon by the name of Chovell heard of the

butcher's dire straights and undertook to save his life. He obtained permission to see Gordon in prison and after explaining his plans he made a small cut in the windpipe and inserted a tracheotomy tube. The jailors detected blood on the butcher's shirt and surmised that he had attempted suicide. The hangman was not going to be denied his fee, so Mr. Gordon was promptly executed.

Following the execution the body was handed over to relatives and Mr. Chovell, the surgeon, had the body brought to a public house. Immediately he set about administering such remedies as he had prepared. Gordon was not dead. He opened his eyes, heaved a deep sigh and then relapsed into a fainting state and died after a few minutes. The surgeon very wisely attributed his failure to poor Gordon's bulkiness which made him hang too heavily on the rope. After all, Mr. Gordon's honorable profession had been, in reality, the means of his end.

In spite of the failure of this operation Mr. Chovell obtained considerable notoriety and an incident is related where a London citizen saved his purse from a highwayman by passing himself off as the surgeon who had tried to save Gordon.

The popularity, as is commonly the case, was directed more to the surgeon than to the operation and we find the later men still defending tracheotomy in a rather timid manner.

Marcus Aurelius Severinus, of Naples, who ranked as the greatest surgeon of the fifteenth century, called it a divine invention and said that if unemployed it was from cowardice of surgeons rather than from the unwillingness of patients.

Lozare Riviere, who wrote his practice of medicine in 1646, merely mentions bronchotomy by way of conclusion and states that it is very seldom practiced for fear of blame should it be unsuccessful.

Louis offers the following criticism in his review (1736): "In an art having for its object men's lives, we can scarcely overrate the mischievous effect of so erroneous a notion, especially on the part of a professor, whose pupils will always think it right to uphold his credit if it be but to gratify their own self-esteem."

Rene Moreau in 1646 displays his knowledge of tracheotomy by reporting two cases. The wounds healed without sutures and he used the curved tube which was removed on the fourth day. He objects to waiting until the last extremity before performing the operation. That he was still encouraging the operation is shown by the following remark: "We often alarm ourselves with things we have

not tried; but as soon as we have once put them in practice we readily admit them and perform them with facility."

From the foregoing historical remarks it is difficult to understand why O'Dwyer should have been credited with his complete lack of sympathy toward tracheotomy. It is no wonder that his intubation method was received with such acclaim. Walsh in his eulogy of O'Dwyer has the following to say: "At the end of the nineteenth century a man of about Laennec's age was touched with pity for the sufferings of the poor children, whom he saw dying from suffocation because of the ravages of laryngeal diphtheria. Nothing could be done for them except, perhaps, to benumb their senses by means of narcotics, while nurse and medical man stood idly by suffering excruciatingly themselves while their little patients bore all the lingering, awful pains of death by asphyxiation."

PART II

What is the situation regarding tracheotomy today? I believe it is just the same as it was in the time of Aesclepiades. Our records at the Isolation Hospital show that of the last forty-two cases of acute laryngeal obstruction (mostly diphtheria) which were admitted in extremis, only one had had a tracheotomy performed. Upon one child an incomplete tracheotomy had been attempted.

Chevalier Jackson, whom we all recognize as an authority on this subject, practically repeats the teachings of Aesclepiades, Fabricius, Rodriguez, and others, when he says in his masterpiece on "Laryngeal Surgery":

"As a therapeutic measure in diseases of the larynx, tracheotomy should occupy a more prominent place than has ever been accorded it. Whether the therapeutic effect is due to rest of the larynx or not, the author is unable to say,

but the effect in many diseases is abundantly proven according to his experience.

"Paralysis of respiration in bulbar palsy,



Fig. 1. Post streptococcic laryngeal stenosis.

cerebellar abscess, and the like, may produce intense cyanosis, for which tracheotomy may not be indicated. But unless the diagnosis is certain from previous study of the case, arrest of

Table 1
DIPHTHERIA CASES ADMITTED TO GENERAL HOSPITAL
KANSAS CITY, MISSOURI, 1922-1927

Year	Total No. cases	Adults	School age	Preschool age	No. tra- cheotomies	No. deaths without tracheotomy	No. deaths with tracheotomy
1922	136	39	43	54	5	13	4
1923	111	29	35	47	10	9	5
1924	85	27	26	32	3	6	1
1925	56	11	22	23	5	5	2
1926	56	13	22	21	12	6	2
1927	73	23	26	24	7	5	0
	517	142	174	201	42	44	14

RECAPITULATION

Total No. of Cases of diphtheria in the past five years.....	517
Total No. of deaths.....	58
Total No. of tracheotomies done on the 517 cases.....	44
Total No. of deaths of cases which had been operated (all causes).....	14

In addition, in the year 1925 we had two tracheotomies on cases other than diphtheria, one on a scarlet fever and the other one a streptococcic laryngitis; both patients recovered.

In the year 1927 we had one tracheotomy on a measles case, the patient subsequently dying of pneumonia. No patient was considered too bad a risk for operation. Note the proportion of increase of tracheotomies in 1926 and 1927. Practically all were preschool age.



Fig. 2. A group of postlaryngeal diphtheria children that have worn tracheotomy tubes within a year. There is slight "collar button" scar present. Entirely healed now.

respiration with cyanosis is *always* an indication for tracheotomy. The cause can be ascertained later. Many times more people have died for want of tracheotomy than have ever died from the operation."

I believe that I can explain the lack of interest in tracheotomy. Each year I have on my service at three different hospitals about thirty young interns from class A schools. I have also occasion to examine applicants for a state license. It is rare that I find one of these boys who has ever seen a tracheotomy, and as for any special instruction on the subject, they have had none. They could all describe the technic



Fig. 3. (a) Measles; acute laryngeal stenosis. Tracheotomy at height of measles. Postoperative bronchial pneumonia. Tube removed fourteen hours after tracheotomy. Recovery. Spontaneous wound healing with normal closure at 21st day. Profuse tracheal purulent exudate.

of a gastro-enterostomy or a Gasserian-ganglionectomy; but tracheotomy has been put in the class of operations along with circumcisions and the removal of warts.

The average medical student's information about a tracheotomy is about as follows: He has heard somewhere or read, probably in the newspapers, about the doctor who while aboard a train was called upon to save a choking child. The doctor, having no surgical instruments with him, quickly performed a tracheotomy with his pen knife and fixed hair pins to hold the wound apart. The child, of course, recovered.



Fig. 4. (b) Laryngeal obstruction. Showing "collar button" scar formation 21 days after tracheotomy.

Never having seen a tracheotomy performed and never having given it any thought, is it any wonder that the young doctor is inclined to develop coarse tremors of his upper extremities when suddenly confronted with a choking, dying child? It is hard for any young medical graduate to appreciate the fact that he is on his own resources and that the public is calling upon him for a service which he should be ready to perform.

The present day high pressure training by specialists in our medical schools seems to have destroyed the initiative of our students and taught them to rely too much upon the specialist in times of stress. The student is either impressed with the extreme difficulty of performing an operation or it is considered so simple that it is ignored. To the latter class belongs

tracheotomy. However, in fairness, I am glad to state that none of my interns has hesitated to perform a tracheotomy when the emergency arose. Several of these operations have been successfully performed without any previous experience and without experienced assistance.

I find that the best method is, first, to have the intern assist me and if the case is not too



Fig. 5.

Fig. 6.

Fig. 5. Four days following removal of the tube. Shows the use of adhesive to hold the edges together with slight notching over the wound to permit drainage.

Fig. 6. Shows the granulating wound which will soon be smoothly healed and have only the "collar button" scar.

urgent to explain each step carefully as I proceed. After assisting at a few cases and managing the postoperative care, I believe that the young surgeon does better if he is thrown entirely upon his own resources and when I am not even present. He is free from embarrassment, keeps a cooler head and is not so quick to give up. The operation itself is a one man job anyhow and to assist the beginner is much like trying to assist one's wife in driving a car.

EQUIPMENT FOR OPERATION

1. One pair of trained hands. 2. A cool head.

IDEAL

Four assistants.
Head light.
Operating table.
Oxygen tank and tubing.
Motor driven suction pump.
Glass connection for catheters.
Three sizes of Jackson tracheotomy tubes (open).
Small sharp scalpel.
Four hemostats with small points.
Two retractors.
Scissors.
Thumb forceps.
Sutures.
Needles.
Ligatures.
Gauze.
Linen tape.

EMERGENCY

One sharp scalpel.

TECHNIC

The patient should be laid flat on his back

with a blanket roll under the shoulders allowing the head to fall downward over the end of the table where it is held firmly in a straight line by assistant No. 1, sitting on a low stool.

The operator should stand on the patient's right side and on the left side should stand another assistant with his left arm beneath the patient's shoulders. Assistant No. 2 should stand at the foot of the table and hold the patient's hands and feet.

The surgeon must have his hands entirely free for the operation. Assistant No. 3 should do nothing but manage the motor driven suction apparatus after she has quickly prepared the patient's neck with two per cent. iodine and washed it with alcohol.

With the head thrown sharply back and the shoulders elevated the surgeon should feel for the thyroid and suprasternal notch with the first finger and thumb of the left hand. The incision should extend between these two points, about a half inch below the upper point to one-half inch above the lower point exactly in the midline.

This incision should be boldly made and extend to the trachea at the first stroke. Unless the patient is in extremis, the bleeding vessels (which are not many) should be snapped with a hemostat or ligated. Then one ring should be palpated below the thyroid cartilage and the next three rings incised with one stroke of the scalpel.



Fig. 7. Shows the automatic shut off as used by the patient's double chin. They quickly learn to lift the chin when the tube is in place. Never do I find it necessary to restrain the patient's hands. They will remove the tube only once.

The trachea should be held with the left thumb and second finger on either side pointing downward, and the first finger of the left hand holding the trachea in line. The thumb and second finger hold back the larger vessels away from the knife and help steady the trachea.

After incising the trachea the tip of the first

finger of the left hand should push down the cut half of the left side of the trachea and with the right hand the proper sized tracheotomy tube should be gently inserted. By holding down one-half of the trachea the tip of the tube slides under the right half and on down into the trachea. (Fig. 10.)

Immediately following the incision of the trachea, assistants Nos. 1, 2 and 3 should lift the child directly up from the table and allow the head to hang down with the child's body almost in a vertical position. Assistant No. 4, who is managing the suction pump, should do nothing except keep the field free of blood, even after the tube is in place. (Fig. 11.)

It is the early aspiration of blood which dries in the trachea or bronchi that so frequently causes serious postoperative obstruction.

After the first few violent coughs the child usually falls asleep on the table. The neck is cleansed of blood. The wound is seldom sutured but is covered beneath the shoulder of the tube with a split piece of gauze moistened with 1/10,000 bichloride of mercury.

Zinc oxide paste is smeared around the skin to prevent irritation from secretions. The top of the tube is covered with four layers of moist gauze and the patient is returned to his room, accompanied by the doctor and nurse.

POSTOPERATIVE CARE

Never for one minute should a child wearing a tracheotomy tube after an acute laryngeal obstruction be left alone; or, what is worse, left with an inexperienced nurse who is too proud to admit that she could not remove and re-insert a tube should it become obstructed.

Now begins the most trying and dangerous

time for the child. The nurse who has handled other surgical cases is so accustomed to uneventful recoveries that she may be inclined to feel that the surgeon has completed the major part of the task. But such is not the case.

These children frequently return to the same critical condition that existed prior to operation and, of course, demand the same prompt relief. The surgeon cannot be with them so the nurse must be capable of managing the patient.



Fig. 9. Four hours following tracheotomy. The gauze covering the tube has been removed temporarily. Note the restful and attentive expression.

These things she must *not* do: 1. Give the patient sedatives of any kind. 2. Cover the patient with a croup tent. 3. Leave the patient with any one who is incompetent to change the tube. 4. Leave the patient to call a doctor or seek help in a crisis. 5. Restrain a patient suffering from laryngeal obstruction.

These things she *must* do: 1. Be prepared to remove and re-insert a clean tube if necessary without help. 2. Always have ready a clean, sterile, open tube of the proper size. 3. Keep secretions constantly wiped away and sucked out of the trachea with the catheter attached to the suction tube. (This catheter should be small enough to pass through the tracheotomy tube.) 4. Keep the patient filled with fluids. 5. Keep plenty of fresh air in the room. 6. Be able to know if her patient is getting enough air.

The above instructions are applicable to the attending interns as well.

One point the young intern must appreciate, i. e., that the experienced nurse can and will teach him a great deal about the management of tracheotomy cases and that she frequently has the uncanny ability to determine very quickly whether the patient is doing as he should. The false pride of the young doctor often retards his learning.

The duration of the diphtheria and the time and amount of antitoxin given are a good lead to the postoperative difficulties to be expected.



Fig. 8. Four little patients that are enjoying life in spite of their tracheotomy. The fat boy in the center has just had his tube removed and is unconsciously demonstrating the full use of his larynx by closing the fistula with his double chin. I have found this to be a very satisfactory method of inducing early laryngeal respiration.

A delayed dose of antitoxin usually means a sudden release of a large amount of tracheal diphtheritic membrane which will occlude the tube. When this membrane starts loosening the entire tube should be removed and care should be taken to see that a plug of this membrane does not dry and obstruct the lumen of the tube. The use of the bronchoscope may be necessary to remove these plugs.

REMOVAL OF THE TUBE

The time of removal cannot be set, but I find that most of my patients permit the removal



Fig. 10. Showing position of patient, assistants and surgeons for a tracheotomy. The assistant who manages the suction tube (catheter lying over the patient) and the assistant who helps to elevate the patient are not shown. Note the position of the patient's head. The rubber oxygen mask is also shown. The instrument table should be on the surgeon's side.

within forty-eight hours. The tube should always be removed in the morning so more help will be available, should a re-insertion become necessary. Also, the sleeping child is more apt to develop obstructive symptoms.

Do not be too easily alarmed when the tube is first removed. Even very small children soon become attached to their friend in need and by their expression will beg for the tube. The wound should not be sutured or sealed shut with adhesive strips on removal of the tube. No packing or drain need be inserted. Moist 1/10,000 bichloride flat gauze should be laid over the wound.

Do not be disturbed by the air which continues to come through the sinus. The drainage which continues for a few days is an indication of the need of keeping the wound open.

Too early closure forces granulations to grow into the lumen of the trachea and may cause a recurrence of acute obstructive symptoms. Should this arise never hesitate to re-insert the tracheotomy tube.

After the discharge has diminished and the patient has become accustomed to the normal method of respiration the gaping wound can be snugly closed with adhesive strips with a notch at the lower midline to allow for drainage. (Fig. 5.)

Never have I found it necessary to suture, skin graft, or perform any operative procedure to close a fistula. I believe the early removal of the tube prevents the formation of a permanent fistula.

While fatal toxic complications are rare following laryngeal diphtheria, it is well to keep these patients quiet for from three to five weeks. They have all had a severe heart strain.

I have had no complications following dismissal from the hospital. There has been no aphonia and no recurrence of any obstructive symptoms.

SUMMARY AND CONCLUSIONS

Laryngeal obstruction presents the same symptoms today that it did in the time of Aesclepiades. The patient will die unless relieved. Tracheotomy is not being taught in our medical schools and has therefore become almost an obsolete operation.



Fig. 11. Position of child and assistants following tracheotomy. In order to show clearly the patient's position the surgeon is taking one assistant's place. He should continue to keep his hands free to manage the tracheotomy tube.

Human nature is the same that it has always been and even a trained surgeon is reluctant to attempt an emergency operation about which he knows but little and where a life is at stake.

Tracheotomy deserves a better place in the field of surgery and every physician who practices the healing art should know how to perform it.

INJURIES TO THE SPINE*

M. L. KLINEFELTER, M.D.

ST LOUIS

This subject is so extensive that it is impossible to discuss all the phases in detail in a paper of this length, but I shall try to touch upon most of the important points.

We examine patients with obscure back injury very carefully for three reasons, viz: First, to ascertain whether the spine has been seriously injured; second, to determine whether the trauma is only a slight injury or one that appearing to be slight immediately after the accident will later give everlasting trouble to the injured person; third, for malingering. We know that malingerers often choose the back as the site of their troubles because of its complicated construction and the anomalous changes that may be present in fairly normal and quite useful backs. We know too that some individuals with quite normal looking backs on physical and X-ray examination are found to be great sufferers with their backs at intervals. For these reasons the spine is a rich field for malingering.

CLASSIFICATION OF INJURIES

In the order of their importance I would classify injuries to the spine as follows: Contusion; back sprains; fractures of the processes; compression fractures without cord symptoms; fracture with displacement; fracture dislocation involving the cord or cauda.

Contusion of the back I believe is about equivalent to contusion elsewhere in the body.

Sprain of the back may result from lifting, falls, body falling on some object; the sprain may involve the structures ordinarily involved in sprain of other parts of body. The usual location of back sprain resulting from moderate violence is the lumbar spine and lumbosacral region. The outstanding symptoms are tenderness, muscle spasm and limited motion. X-ray as a rule reveals nothing except predisposing factors. Pain about the site of injury, especially in recent injury, is the rule but the pain is occasionally referred low down, especially down the sciatic nerve. Pain is not constant on motion of the spine in all directions as it is when arthritis is the underlying cause of the pain.

TREATMENT OF BACK SPRAIN

Treatment of back sprain varies according to the subjective and objective evidence present. If objective symptoms are present, and they should be in recent sprain, the part should

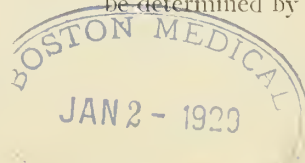
have rest until the ligaments and muscles have had time to heal, say from two to six weeks. This is best brought about by rest in bed or on a Bradford frame until muscle spasm subsides; then a plaster jacket or, in slight cases, strapping, until the symptoms have entirely disappeared. Other measures, such as light or heat in various forms, massage, etc., may be used according to indications and environment. These do produce temporary relief, but I believe that an adequate amount of rest is necessary for the repair of the damaged structures.

The average back sprain should recover, practically, in a comparatively short time, say three to six weeks, if properly treated. Failure to respond is due, usually, to one of three reasons, viz: First, the patient is subject, although he may be unaware of it, to chronic arthritis which became activated following the injury; second, he may be predisposed to arthritis from infectious foci or bad posture and the injury lowered his resistance; third, the patient is not inclined to recover.

Patients falling under the first and second classes, that is, those with chronic arthritis or predisposition to arthritis, should be treated as arthritis from other causes. They should be immobilized in moderation. I do not feel that such patients should be immobilized until all symptoms disappear, except in cases of tuberculosis. All infectious foci should be investigated and treated according to the findings and the best judgment of the physician. Such patients should be encouraged to expect recovery for otherwise they frequently become neurasthenics.

In the third class we have those who are not inclined to get well. The treatment of these patients is to a great extent up to the judgment and personality of the physician in charge of the case, but the doctor who undertakes to treat an injured back or an alleged injury of the back without first making a careful physical and as a rule X-ray examination, is apt to find himself in a complicated situation later on. First, because he may overlook an important lesion which should have received immediate treatment; second, because the average malingerer realizes that the physician does not know whether he is injured or not and takes advantage of this point; furthermore, the chance for the most instructive examination, the most valuable part of the record, is lost. I believe that many cases of malingering could be avoided by a careful examination while the injury is recent. When this is not done we are later confronted with this serious problem; did the patient have objective evidence of injury following the accident? If so, was it superimposed on a pre-existing chronic back? These points cannot be determined by a history after the patient has

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.



had a month or three months to frame his answers and, if the patient is not adequately treated at the proper time, a large percentage of the cases will result in chronic back conditions and become actual neurasthenics. Such cases are very unsatisfactory for any one to handle.

Sacro-iliac joints. I feel that the construction of the sacro-iliac joints is such that they can be sprained under certain conditions but, as compared with the lumbar spine, sprains of the sacro-iliac joints are comparatively rare except in connection with serious injury, such as fracture of the pelvis or other gross damage to this region. If we are inclined to assume that most of these low back injuries are sacro-iliac sprains, the treatment should be about the same as that used for other back sprains; but if you actually have a subluxation of the sacro-iliac joint, permanent recovery is problematic without early adequate treatment.

Fracture of the processes. Probably next in importance comes fracture of the processes of the vertebrae. While we may have a fracture of any of the spinous processes or even of the laminae due to direct violence, and fracture of the transverse process, especially of the lumbar vertebrae, from direct violence or muscle strain, most of these injuries are in the lumbar region. Whether the transverse process in the lumbar region be broken by direct or indirect violence makes little difference; direct violence in the lumbar region frequently does produce fracture of one or several transverse processes. All cases giving such a history of injury in the lumbar region should be regarded as possible fracture of the transverse or spinous processes and should therefore have a thorough physical and X-ray examination. During the X-ray examination we should be on our guard for anomalous conditions, particularly as to the first and fifth lumbar and the twelfth dorsal, as the latter may be mistaken for the first lumbar when the twelfth rib is anomalous. The first lumbar frequently shows an apparent fracture of the transverse process in cases not giving a history of any injury, probably the result of an ununited epiphysis; and the fifth lumbar may have transverse processes of various forms. The outstanding symptoms of fracture of these processes are similar to symptoms of contusion or sprain, but the pain and tenderness are usually more marked in fracture and quite localized.

Patients with frank fracture of the transverse processes should be told of the condition, but caution should be exercised to prevent the patient's getting the impression that he has a broken back. It should be explained that he has an injury, probably not more severe than

a broken rib but requiring a longer time to heal. Ordinarily the average transverse process should unite in eight to twelve weeks, depending upon the displacement accompanying the injury.

These cases are probably best treated in the recumbent posture, unless the patient is past fifty years of age, for a period of from four to six weeks; after that time, with an adequate plaster jacket properly applied, the patient can be allowed up. During this period of convalescence physiotherapy may be of great benefit, the cast being removed for treatment only. About the same treatment holds true in fracture of the spinous processes or of the laminae, unless the latter should involve the cord; in that case the laminae should be elevated or removed by open surgery.

Compression fracture. By compression fractures we mean crushing fractures involving the bodies of the vertebrae with or without impaction. Such fractures not involving the cord result as a rule from falls on the buttocks, the head and the shoulders, or from a weight falling on a person while in a stooping posture, fall in elevator, or anything which may cause extreme flexion of the spine. Any of the vertebrae may be involved in such an injury, but the dorsolumbar region is the most frequent site. The cervical and high dorsal regions are involved much less frequently in this kind of fracture. Following such accidents, if the patient has localized tenderness anywhere along the spine, or girdle pains corresponding to the site of the injury, we are usually dealing with a fracture. In addition to the usual symptoms of back injury—pain, tenderness, muscle spasm—we may have girdle pains and quite frequently a knuckle or small kyphos. Physical examination should be checked under such circumstances by adequate X-ray pictures, anterior, posterior and lateral. This should be done in every suspected fracture, not only for the primary object of prognosis and treatment, but also to prepare you for the medicolegal complications involved in such a large percentage of these cases, and to establish a differential diagnosis, a very difficult thing to do later on. Some of the less severe types of these cases may soon resemble an old arthritis, a previous injury, or even a Pott's disease healed during childhood, may resemble very much a compression fracture of a few months standing.

Prognosis. In the average case the prognosis is favorable with proper treatment, and some with slight fractures probably make a good recovery without treatment. The latter statement is based on the observation of many cases coming for treatment of pain or lame back long after a history of accident that might

possibly have caused compression fracture which had not been treated. On the other hand, some of them, even when properly treated, will result in Kümmell's disease, and a few of them will develop a very distressing osteo-arthritis with some nerve involvement.

Treatment. The term compression fracture covers a large field of varying severity. The treatment varies accordingly, some cases being so slight as to require only a plaster jacket and restricted activity. An average case should be placed on a Bradford frame, or bed, with an adequate cast for six to twelve or fifteen weeks, with moderate hyperextension. If the frame is used the hyperextension should be increased from time to time until the spine is more than normally extended. If the fracture be of a cervical vertebra, extension, with sand bags on either side of the head, should be added. Following the period of confinement the patient should be placed in a good cast for a few weeks after which a brace will suffice. Some few cases may have to wear a brace for a year or more but most of them should be able to return to work, beginning cautiously, in from three to ten months. The question of operation usually presents itself for consideration in such fractures. It is a question of bone graft, fusion operation, or neither one. Personally I favor operation only in a few of the most severe cases where it is reasonable to expect that, unless a permanent fixation is effected, a definite deformity will develop or the process of repair will go on until the cord or the nerve roots are involved.

Fracture or fracture dislocation with paralysis. When paralysis occurs the displacement as a rule is greater, or the arch is involved. Paralysis may be immediate resulting from severing or crushing of the cord, may result soon after the accident from hemorrhage or displacement of the fragments, or may occasionally develop later as result of edema. In type one, when paralysis is immediate, the patient usually is in shock, or shock plus other injuries, and the shock should have immediate attention. When fractures result from hyperflexion, as most of them do except from direct injuries, the patient should be hyperextended while shock is being cared for; the Bradford frame is the best means of securing hyperextension under such conditions. Where the neck is involved, sand bags should be used on the side of the head and direct extension to the head. Throughout, the foot of the bed is elevated and as a rule there should be extension on the legs which is a great aid, particularly in fractures involving the lower part of the spine. Heavy weights should be used, all that Buck's extension will stand. All three

types should be treated the same in a general way.

Operation. In all three of these classes I have found the consultation and cooperation of a competent neurologist invaluable. The task is too great for a surgeon or a general practitioner to differentiate between that which is functional and that which results from organic changes, or to estimate the importance of various symptoms even though they be the result of organic changes. The results of open surgery do not justify an open operation on patients suffering from severe shock. It certainly adds to the immediate danger, particularly of injuries in the cervical region. As to reduction of the deformity it is frequently surprising what can be accomplished by the judicious use of hyperextension and extension in a comparatively short time and with much less danger to the patient. There are indications for laminectomy and other open surgery but where the cord is crushed or severed it will certainly do no good. In classes two and three, where the paralysis is not immediate or where paralysis is increasing, if the patient is otherwise an operable risk, we should resort to open surgery. When the cauda is involved open surgery should be done. But in all instances regardless of our ideas on open surgery conservative measures should be promptly and carefully tried.

401 Wall Building.

DISCUSSION

DR. R. A. WOOLSEY, St. Louis: I should like to send out a little note of warning to the country doctor who has not access to the X-ray, and probably more of a warning to the country doctor who has an X-ray, because he usually has a light apparatus that won't show a good spine picture. He hasn't the Bucky diaphragm usually and he gets a picture that doesn't show a fracture; then he says there is no fracture. He is not able to take a lateral picture because his machine is not powerful enough to take it and he overlooks it. The note of warning is the fact that a lot of these fractures, especially the lateral process fractures, are insignificant if they are properly handled in the first place. If they are allowed to go on untreated the disability comes weeks and months after the injury.

If the country doctor will take the patient that he considers has a sprained back and will put him to bed, he will get good results. If necessary put a couple of boards under the mattress and a couple of blankets on top of the boards to raise him up and make his Bradford frame. If you don't put him to bed and don't give him the rest required you will have bad results later. For instance, all of us have seen X-rays taken incidental to other work, that show old lateral fractures. If you ask that patient if he ever had a bad back injury he will say no. You get to talking to him and you find that he did fall off his porch; that he was laid up with a sprained back and stayed in bed for a couple of weeks and it got all right. The couple of weeks were what saved him.

In these days of litigation, compensation and so forth, it would make a difference whose porch he fell off of. If the country doctor will put these cases to bed when he thinks he has a sprained back he will save a lot of trouble later on.

DR. L. C. CHENOWETH, Joplin: The back question is one that worries the industrial commissions of all the states probably more than any other single class of injuries. It has been my fortune or misfortune to have a good deal to do with industrial emergency work, and I have observed many back injuries in mines. There are many things necessary to do and some things that are necessary to avoid. In the first place, many X-ray pictures of the back that are real pictures will show some anomalous condition of the vertebrae. That fact should be impressed on the minds of men who don't see these conditions frequently. Certain vertebrae have anomalous conditions. I recall about 2,500 back pictures shown in Kansas City by an X-ray man who is the consultant of the Industrial Commission of eastern states and out of all of those 2,500 he showed a composite spine that he called a perfect spine. Scores of those spines, absolutely perfect in their function, without any injury or anything of that sort in a general way, would be diagnosed by the ordinary man using an X-ray as an injury.

Dr. Francisco suggests that we should not over-treat these patients. That is a very good suggestion, but when a fellow keeps coming to your office and insists that he is suffering more pain all the time and it is getting a little close to court time what are you going to do with that fellow? The average X-ray picture of the spine made by the average X-ray doctor is worth anything comparatively little to me.

DR. M. L. KLINEFELTER, in closing: I want to thank the gentlemen for their discussion and I want to apologize for the lantern slides. They were good X-ray pictures.

One point that has been discussed pro and con, and on which I have very definite ideas, is that sprained backs do show objective evidence if they are examined early. If a man has a recent injury of the back he has objective evidence, but as time goes on if his back is not treated early some of them develop various conditions; for instance, too much motion causes excessive scar tissue and symptoms vary. Some days they will have symptoms and some days they will not; but in an early case they should all have symptoms.

As to the physiotherapy, I mentioned that just about as I considered its importance. It relieves pain for the time being, but if a patient has a ruptured muscle or a torn ligament, rest in the proper position is the only means of securing union and give you the best results. Physiotherapy can be used to an advantage in connection with the mechanical treatment.

PERNICIOUS ANEMIA

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Numerous attempts have been made in the past to establish a bacterial background for the etiology of pernicious anemia. Hurst, Bell, and their co-workers emphasize the importance of streptococcus longens, assuming

that the organism liberates both a hemotoxic and a neurotoxic substance. Seyderhelm is equally certain that some member of the *B. coli* group is the causative agent.

In 1906, Herter, while making observations on the bacteriology of the gastro-intestinal tract in cases of advanced anemia, noted that in many individuals afflicted with pernicious anemia, the gastro-intestinal tract showed increased numbers of anaerobic organisms, identical with *B. Welchii* group. He further noted that in severe cases the number of *B. Welchii* was greatly decreased during remissions. Kahn and Torey in 1925, injected *B. Welchii* toxin into monkeys and produced blood changes similar to those found in pernicious anemia. Cornel obtained similar results by producing a chronic infection with *B. Welchii*.

It is known for example, that *B. Welchii* produces an extra cellular toxin which is both hemotoxic and neurotoxic. Bull and Pritchett succeeded in producing a very satisfactory antitoxin. Their work was done in connection with gas gangrene infections in war wounds. At the time this work was being done, I became interested in the anemia produced by *B. Welchii* toxins in rabbits, and also the prompt relief of the anemia and the improvement in the blood picture which could be produced by the administration of the antitoxin. Those observations were made in the War Demonstration Hospital of the Rockefeller Institute at that time and were not published.

The most important stimulus to scientific dietary treatment of pernicious anemia was furnished by Whipple and his associates in 1920; they proved that proteins enhanced blood regeneration to a greater degree than other food stuffs and, incidentally, that liver was very potent.

Recently Murphy and Minot have furnished the most satisfactory dietary treatment of pernicious anemia that has ever been brought forward. Their results were very striking and I think have been fully corroborated by most investigators.

Some time ago the idea occurred to me that inasmuch as the toxin of Welch's bacillus is destroyed by oxidizing agents, notably by Dakin's solution, that we might attempt to neutralize the toxin at the point of its formation, namely, the colon.

Therefore we began using various oxidizing agents as high colonic irrigations in pernicious anemia patients. We finally decided upon hydrogen peroxide as being the most efficient and presumably the only one which

might be considered harmless. The results were quite encouraging.

Some months later we began using tetanus perfringens antitoxin in all our pernicious anemia cases. The reason for using the tetanus and the Welch bacillus antitoxin was three-fold: In the first place we had found tetanus bacilli almost as frequently as *B. Welchii* in the stools of our cases; in the second place, the only antitoxin available was a combination of the two; and third, the toxin of tetanus bacillus has a hemotoxic as well as a neurotoxic action. The work is by no means completed, especially the experimental side of the problem, but still I feel that a brief outline of our results might be of interest.

During the past ten months twenty-two cases, all severe, have been treated, ten of which have received antitoxin. The general plan of treatment follows:

1. Small blood transfusions, from 150 to 500 cc. depending upon the degree of anemia, given at four day intervals until the blood picture approaches normal.

2. From 3 to 5 drachms dilute hydrochloric acid daily, given usually in sweetened orange or lemon juice at meal time.

3. Buttermilk between meals.

4. Murphy and Minot diet so calculated as to give the patient 40 cal. per kg. of body weight.

5. High colonic irrigations, using 1 oz. hydrogen peroxide to each 500 cc. salt solution.

6. During past three months, 10 cases, 20 cc. tetanus perfringens antitoxin the first and second week.

At present I can speak only relatively of the results. At a glance one can readily see that the cases have not been controlled in such a manner that one is able to specify just what procedure was beneficial. We have considered that inasmuch as pernicious anemia is a grave disease, everything possible should be done. I feel that we can judge comparatively the results of the cases treated before irrigations were used, with the results of the twelve cases receiving irrigations, and then in turn note the results of the last ten cases which received the antitoxin in addition to the irrigations.

The cases treated by irrigations in addition to large doses of hydrochloric acid, Murphy-Minot diet and blood transfusions, gained strength more rapidly; their blood counts approached normal more quickly and their gastro-intestinal symptoms, including appetite, have improved more rapidly than in the preceding series of cases.

The cases that received antitoxin in addition to the above treatment, made about the

same degree of progress relative to blood counts, gain in strength and amelioration of gastro-intestinal symptoms, and in addition reported marked improvement in spinal cord symptoms. At present, I feel that this is the most important function of the antitoxin treatment. It will, of course, be interesting to note the progress of these cases as time goes on. I think that in general the procedure deserves further trial.

Of the twenty-two cases treated during the past eighteen months, all have remained in remission except two. The first treated died four days after admission, and one seen four months ago, with chronic deforming arthritis and cardiac decompensation as a result of mitral stenosis combined with the anemia, has failed to make a definite response. Three cases will suffice to show the general progress:

REPORT OF CASES

Case 1. Miss S., aged 48, school teacher. Mother and two sisters had died of pernicious anemia. First noted numbness of the feet and ankles and inability to correlate the movement of her legs about eight months before admission. These symptoms gradually increased in severity and later she began to develop weakness and pallor. On admission she could not walk alone; used crutches and was helped by a nurse.

Blood count was, hemoglobin 56 per cent., red blood cells, 2,710,000. Complete achlorhydria. *B. Welchii* were found in the stool. She was given three blood transfusions of 400 cc. each at four day intervals. A Murphy-Minot diet of 2800 calories; 1 drachm dilute hydrochloric acid with meals. High colonic irrigations with hydrogen peroxide every other day and two injections of 20 cc. of tetanus perfringens antitoxin at seven day intervals. Blood count promptly arose to hemoglobin 75 per cent., red blood cells 3,870,000 in two weeks. In four weeks she left the hospital and was able to walk with the aid of a cane. In four weeks after dismissal from the hospital she was able to drive her Ford car sixty-five miles to the hospital for observation. She was walking unassisted.

Case 2. Mrs. B., aged 52. Diagnosed pernicious anemia one year before; had been given five blood transfusions at four week intervals; had recently been taking 30 drops of hydrochloric acid with meals and been on a Murphy-Minot diet. She was admitted with hemoglobin 18 per cent., red blood cells, 1,100,000. Smear, anisocytosis, poikilocytosis, myelocytosis. She was semiconscious; suffering from an acute pulmonary infection which developed into bronchopneumonia. She was given five blood transfusions at four day intervals, beginning with 185 cc. and ending with 500 cc., daily colon irrigations with hydrogen peroxide. She remained semiconscious for one week during the course of the pneumonia, then began to improve. She left the hospital with hemoglobin 70 per cent., red blood cells, 3,560,000, taking 1.5 drachms hydrochloric acid with meals; Murphy-Minot diet 3000 calories, buttermilk between meals, and colon irrigations with hydrogen peroxide every other day. One month later she had a blood count similar to the one on dismissal from the hospital; she felt strong but her legs cramped and felt numb; she

was quite unsteady on her feet; she was given two 20 cc. injections of antitoxin and noted very marked relief of her cord symptoms. At present, three weeks later, the numbness has left and she walks much better.

Case 3. Mr. G., aged 54, contractor, came into the hospital with a gastro-intestinal history; had been complaining of indigestion with frequent attacks of diarrhea alternating with constipation for eight months. For the past two weeks had been unable to retain any food, would vomit broths or even water. Recently had noticed numbness of legs and inability to correlate movement. His hemoglobin was 18 per cent., red blood globin was 18 per cent., red blood cells, 1,240,000. Smear, anisocytosis, poikilocytosis. He was given five blood transfusions at four day intervals, beginning with 250 cc. ending with 500 cc., daily colon irrigations with hydrogen peroxide, 1.5 drachms hydrochloric acid at meal time, and a Murphy-Minot diet of 3500 calories. His improvement was most striking. His hemoglobin on dismissal three weeks later was, 70 per cent., red blood cells 3,460,000 and he was feeling fine and ready to go to work. His only complaint was an inability to properly correlate the movement of his legs and the feeling of numbness in his feet and ankles. He was given two injections of 20 cc. each of antitoxin, and two weeks later he tells me that the numbness is practically gone and that he can walk much better.

Lathrop Building.

BIBLIOGRAPHY

1. Hexter, C. A.: *J. Biol. Chem.* **2**: No. 1, 1906.
2. Hurst & Bell: *Brain*. **45**:266, 1922.
3. Seyderhelm, R., Erget, Dr.: in *Med. U. Kinderheilkunde*. **21**:361, 419, 1922. *Deut. Med. Woch.* (Dec.) 1925, p. 2120.
4. Kahn, M. C., Torey, J. C.: *Proc. Soc. Exp. Bio. Med.* **23**: No. 8, 1925.
5. Cornell, B. S.: *J. Infect. Dis.* **36**:425 (May) 1925.
6. Minot G. R., and Murphy, W. P.: *J.A.M.A.* **87**:470, 1926.
7. Whipple, G. H.; Hooper, C. W., and Robschit, S.: *Am. J. Physiol.* **55**:151, 1920.

EMERGENCY TRAUMATIC SURGERY*

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The subject of emergency traumatic surgery covers a vast field and in this brief paper I will only attempt the consideration of its more important phases. Every surgeon doing industrial work realizes the importance of the emergency side of this subject. The complications which may arise are so numerous and their occurrence oftentimes so sudden that the alertness and skill of the surgeon are taxed to the utmost. The work is so varied that the interest in it never lags.

Mock,¹ in his work on Industrial Medicine and Surgery, defines emergency surgery as the first treatment rendered an injured person by the surgeon, explaining that in most large industrial plants the first aid is ren-

dered by a layman, an employee trained in first aid work, or by a nurse. In our work most of the first aid is rendered by a graduate nurse or by an association surgeon.

If there is any question in the mind of the nurse as to the seriousness of the injury the injured employee is sent to the doctor's office or to the hospital at once. Ofttimes the first aid services of the nurse are all that is necessary, but it is not our idea that her services should in any way supplant those of the surgeon.

In this type of work the fact must not be overlooked that very large sums of money are paid out annually by employers, insurance companies and sick benefit societies, as a direct or indirect result of accidents, avoidable or unavoidable. We should constantly cooperate with the heads of departments and with all employees in safety first propaganda and endeavor at all times to return the injured man to his work as soon as it is possible for him to carry on with safety to himself and fellow employees. "Safety First" and "Report at Once" are two slogans that should constantly be stressed with the employee.

In Mock's experience, one hundred minor cases report to every five of the more serious; in our work we find about the same average. To quote him further: "In combined major and minor accidents, about one injury out of twelve is sufficiently disabling to require loss of time from work (provided they report at once to the doctor)."

Of major accidents, fractures are the chief cause of a lengthy disability, averaging, in Mock's experience, 42.8 days per case; sprains and dislocations rank second and hernia third.

Among minor cases, those losing the most time are the infected cases and the great majority of these infections can be traced to carelessness and neglect of the patient in reporting to the doctor.

There is great rivalry among department heads to show each month a decreasing number of reportable injuries, that is, injuries requiring less than three days loss of time from work. This spirit is very commendable and we can see results in the decreasing number of accidents, but occasionally it works a hardship on the injured man in that he is told by his foreman that his injury does not amount to much and that if he goes to the doctor he will probably be taken off the job for a week or ten days. As a result, when the man does report several days later he has an infection which necessitates the loss of a great deal more time than if he

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-3, 1927.

had reported at once. There is also the danger of permanent impairment of function of some member.

Among the most common minor wounds we have to contend with are abrasions, contusions, lacerations, puncture wounds, blisters, foreign body in eye, foreign body penetration of soft parts, strains, sprains and tenosynovitis. The chief complications of these wounds are, infections, ulcers, keloids and scar contractures.

The chief major wounds are fractures, crushing wounds, dislocations, penetrating wounds, burns, loss of member, avulsions, injury to nerves, blood vessels and viscera, brain injuries, and special traumas, such as traumatic hernia, orchitis, traumatic pleurisy, appendicitis and traumatic neuroses. These of course may occur singly or be complicated by the presence of any of the others.

This work also includes the handling of cases of suffocation, asphyxiation, acute poisoning, freezing, heat stroke and sun stroke.

The treatment of injuries involves a few principles that are familiar to all of us, but they will bear repeating. Our first idea is the prevention of complications and the first one we think of is infection. Immediate application of an antiseptic should be made to all open wounds; tincture of iodine is probably one of the best and is the one we depend on for the most part. More recently we have been using mercurochrome (2 to 5 per cent.) and find that our results are equally good. Be sure that the antiseptic solution goes into all parts of the wound. Cleansing of the wound is very important; shave away from the wound and shave dry; avoid additional trauma from rough scrubbing, cleanse surrounding surface with benzine and alcohol; do not apply soap and water; remove loose tags of skin, saving as much as possible. Remove loose pieces of bone deprived of periosteum; locate all foreign bodies with the X-ray before making any attempt at removal.

The question of drainage is an important one but no fixed rule can be laid down regarding drainage; as a general rule, incised wounds can be treated with tincture of iodine and closed without drainage; crushing wounds may be partially closed. Care should be exercised in suturing deeply incised wounds to guard against too much tension.

I recently cared for a patient who had an incised wound along the lateral surface of the thigh caused by windshield glass. He

had received emergency treatment at another hospital about 36 hours prior to the time I saw him. At the time of his admission to our hospital he had a temperature of 102.6 F. and appeared to be extremely sick. Upon examination I found the thigh red and swollen, with evidence of necrosis along the skin margins. There was a beautiful closure of the skin with a continuous suture, the wound being about ten inches in length. No drainage had been instituted. I removed the skin sutures and found the fascia closed tightly with a continuous suture; this was also removed and it was then discovered that the lacerated muscles had also been sutured tightly together. The necrotic muscle tissue and necrotic skin flaps were trimmed away, the wound left wide open, moist hot dressings applied and the next day the temperature was normal and the patient greatly improved. There was continued sloughing of the skin so that finally a skin graft was applied to secure complete healing. This one case illustrates the fallacy of tight closure of incised wounds which may be infected, and the placing of tension on sutures to the point of interference with the blood supply. Wounds that are potentially infected or where there is already evidence of infection should be left open.

The type of drainage material is not so important; rubber tubing, rubber-dam and gauze, if there is hemorrhage, small rubber band, or a loop of catgut. In all suspiciously dirty wounds antitetanic serum (1500 units) should be given. The type of injury, manner and place in which it was received, should be considered before the administration of the antitoxin.

Hemorrhage is another important factor with which we must contend. Bleeding may be controlled by packing, clamping and ligation of bleeding vessel, or a tourniquet may be applied if other means of controlling the bleeding are not at hand, but care should be taken that the tourniquet should not be allowed to remain over a long period of time. In the more severe injuries, shock and hemorrhage are the chief factors that should be cared for. They may occur singly or combined.

John J. Moorhead² describes very clearly the symptoms of shock, which I believe are worth repeating. He defines shock as "a temporary depression or collapse of vital forces, due to psychical or physical trauma, in which alteration of blood pressure is a cardinal feature due to vasomotor inhibition or exhaustion."

A typical case presents a rather character-

istic appearance in that the patient is unconscious or nearly so immediately after the accident; the surface of the body is pale, cold and sweaty; the expression is anxious, the eyes are shut or widely open; the pupils are dull, usually dilated and respond slowly; respiration is shallow and feeble and often intermittently sighing; the pulse is weak, compressible, and often irregular and may be slow or rapid; if the patient is arousable, mental confusion or torpidity is the rule; sometimes the sphincters are relaxed and nausea and vomiting occur; the temperature is subnormal or slightly elevated at first. After some minutes or later these patients gradually become aroused, color returns, the mind clears, pulse and respiration strengthen and they recover. Other much more severe grades may remain in a state of mental torpor or physical depression for many hours and even die from shock alone, although death from this cause independently is quite rare and should not be accepted as a sole cause in the absence of an autopsy.

Secondary or delayed shock generally is an indication of bleeding or sepsis and usually appears within the first 48 hours after the accident and perhaps up to this time the patient had shown no serious symptoms. In dealing with shock we must keep in mind the fact that hemorrhage may be coexistent with it. Shock patients get better while bleeding patients often get worse during treatment and with the lapse of time. With hemorrhage there is increasing pallor, pulse soft and compressible, at first rapid but gradually grows slower and irregular; the patient yawns frequently and complains of thirst; the blood pressure becomes lower and lower.

In emergency treatment of severe injury, the patient should be immediately placed on a bed or dressing table and kept warm with blankets and hot water bottles. If suspicious of shock an injection of morphin may be given, or aromatic spirits of ammonia if the shock is mild. Inspect the injured part, clamp bleeding points, sterilize with tincture of iodine, and apply a sterile pad; do not wait to bandage. Have assistant count pulse and take blood pressure, give cardiac stimulants and be ready to give normal saline intravenously or by proctoclysis. Do not move the patient until he has recovered from immediate danger. Operation in cases of the severe type just mentioned should be delayed until there is evidence of improvement in the patient's condition, unless it is evident that delay is of greater menace to the patient's life than the shock condition.

The patient may be given intravenous saline while on the table, or a blood transfusion if indicated. The majority of these severe cases stand the effects of an anesthetic very well and oftentimes an improvement in their condition is noted soon after the anesthetic is started.

I have been asked to stress especially the proper immobilization of fractures for transportation. This is very important not only from the standpoint of the surgeon who is to care for the fracture upon arrival at the hospital, but chiefly from the standpoint of the patient. In treating bone and joint injuries shock is of first concern and infection second. Perhaps the most common cause of shock is trauma; and transportation without proper immobilization means adding trauma to trauma. Therefore, proper immobilization of a bone or joint injury means fixation, which will prevent further trauma; if this is secured the patient will make the trip in comparative comfort and without shock.

According to Osgood,³ the essentials of a good splint are: 1, comfort of the patient; 2, the splints must fulfil the mechanical purposes for which they are applied; 3, they must be simple and light; 4, for fractures of long bones and certain joint injuries it is desirable that they embody the two principles of fixation and traction.

In fracture cases the patient should not be moved, unless to free him from further danger, until the extremity has been immobilized. The application of the splint should be made with as little manipulation as possible. The splint can be made from a thin board, a little wider than the injured member and long enough to secure good fixation; it should be well padded with cotton, if available, or portions of the patient's clothing. This type of dressing will suffice until the doctor arrives or the patient can be taken to a point where a doctor can check the splinting or apply proper splints. I do not believe in moving patients with fractures without immobilization. Most of the cases we see are brought in an ambulance without any attempt having been made at immobilization. This first aid should be rendered by fellow employees so that the patient can be moved immediately upon the arrival of an ambulance. Those rendering first aid should not attempt manipulation of the broken or dislocated parts.

The following methods of immobilization are recommended by Irving Clark: Fractures of the forearm should be splinted with double boards, well padded, and the forearm

should be supported at right angles to the humerus in a sling. Fractures of the ribs should be at once immobilized with adhesive plaster strips 3 or 4 inches in width and should encircle 2/3 of the chest being applied from below, upward. Fractures of the femur are best handled by the Thomas hip splint. This should be applied with the patient lying in a comfortable position while traction is made on the injured leg; fit the ring of the splint well at the ischial bearing, then the traction bandage, which has been applied so that its loops are well back of the malleoli, in order that its line of traction be behind the ankle joint. The bandage is then brought down to the notched end piece of the splint and tied; a piece of wood may then be slipped between the bands and twisted to increase the traction. Bandages about the whole leg and splint complete the dressing.

Fractures of the leg can usually be comfortably immobilized by a pillow splint. If there is much displacement the Thomas splint should be used. Pott's fracture and fractures of the foot can be treated easily by use of the pillow splint. Fractures of the clavicle and humerus can be transported satisfactorily in slings and bandages. In fractures of the humerus where there is much displacement, the Jones humerus traction splint is very satisfactory. This splint is so constructed that traction can be made on the lower fragment and the forearm supported in a comfortable position at the same time. Denman, of Kansas City, has devised a modification of this splint with long turn buckles on the vertical rods which are useful in adjusting the traction and also in making the splint applicable to long and short arms. We have found this splint very satisfactory.

I realize, of course, that the Thomas and Jones splints are not available to every one but if immobilization is followed out as has been suggested I believe our fracture cases will arrive in much better condition, both physically and mentally.

SUMMARY

All open wounds, no matter how apparently trivial, should be treated at once with tincture of iodine, then report to the doctor or nurse.

In severe injuries the conditions of shock and hemorrhage should be cared for first.

An attempt should be made in each case to secure the best functional result and to return the employee to his former occupation as soon as possible.

The first service rendered a fracture should be its proper immobilization.

"Safety First" and "Report at Once" are the two chief slogans.

1001 Chambers Bldg.

REFERENCES

1. Mock: Industrial Medicine and Surgery.
2. Moorhead: Tra. matic Surgery.
3. Osgood, Robert B.: Penn. M. J. (Jan.) 1919.
4. Cherry, Percival: M. J. Australia (May) 1926.
5. Hertslet, Lewis E.: J. Indust. Hyg. (Jan.) 1926.
6. Kressner, Henry H.: J. Indust. Hyg. (May) 1926.

DISCUSSION

DR. LLOYD B. CLINTON, Carthage: I feel that Dr. Castles has dealt with this subject in a very masterful way. It is a very hard subject to discuss in so few minutes, yet he has covered the ground beautifully, confining himself to the mere emergency treatment, not going into a discussion of the later or subsequent treatment or the follow-up that must be encountered in these cases.

One thing of importance is the effect that our compensation act has had upon injured men. We now must consider several things that we did not have to think of before. Many times the two-thirds pay that stares the injured man in the face is going to be inadequate for his actual living needs over a prolonged period of time and that will be all he gets in the vernacular of the man who is working. Then it behooves us to shorten his disability time to the utmost, oftentimes using methods that perhaps would not have been brought into play under the old regime.

My work among the quarries in the southwestern part of the state presents very many major injuries. Those fellows are living under difficult conditions, with poor pay, perhaps lower than any place else in the state, and they never save a dime. We try to get them back on the job for their own sake as promptly as possible.

There is one point about immobilization of fractures that I think is excellent and should be stressed. The average fracture that comes to us is dangling at right angles and has had absolutely no immobilization. There is always great pain. It seems to be an impossible task to instruct the men to tie a board onto a leg; they simply run from it and call an ambulance, and very often the patient comes in before I know of the accident. We are going to try to combat that sort of thing by talks before the men. It is very gratifying to find a patient who has received proper first aid. Lately a fracture of both bones of the forearm came in beautifully tied onto a shingle with crude padding, and the man was in perfect comfort, but that is the exception in my experience.

The only criticism I might offer would be inject my humble opinion against the use of iodine. I feel that in the plants for which I work the iodine bottle on the bookkeeper's shelf where it generally is kept has been a great source of expense to our corporation. At the present time we are dressing a burn of the hand that is terrific; it is a sloughing, angry hand that originated from the very excited application of some stale, evaporated, concentrated iodine on a very trivial injury. I feel that mercurochrome is very often better and certainly we think that the wounds look better, not having been cauterized and irritated by the iodine. We have had no experience that would give us any fear as to the idiosyncrasies that might be present with the use of mercurochrome.

The slogan of "Safety First" and "Report at Once" emphasized by Doctor Castles should be mentioned again, and in that connection I feel that in occupational work the contact of the doctor and the men is very important. If we can appear before these men at the noon hours occasionally with our

little talks on the simpler things to be done before the doctor arrives or before a nurse gets there, we are going to shorten the man's disability and shorten his two-thirds pay that he is worrying about.

One corporation has a regular class each fall in which we instruct the men in first aid. That is in the explosives manufacturing industry, which is very highly dangerous. When casualties do occur they are too often only in need of the undertaker rather than the doctor, but those men with their acquaintance of the first aid principles can often render valuable help at the time of the explosion.

FUNDAMENTALS OF THE KAHN TEST

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ST. LOUIS

The classical Wassermann was published by Wassermann, Neisser and Bruck in 1906 and directly after that workers, finding this test full of complications, began to modify it. The first step toward simplification was taken by Michaelis in 1907 when he proposed a precipitation test based on the watery extract of syphilitic liver. Three years later, Jacobstahl published an ultramicroscopic precipitation test, using an alcoholic extract of syphilitic liver as his antigen. Bruck and Hidaka soon followed with a more practical test in which good results were obtained after 24 hours' incubation. In 1917 Hecht evolved a precipitation test based on antigen made from normal beef heart. Meinicke, in 1917, reported his original salt solution precipitation method for the diagnosis of syphilis, and one year later published his third modification. Sachs and Georgi published a test in 1918 which required from 24 to 48 hours' incubation. Several other precipitation tests were published, all having in common an antigen highly diluted and incubation periods varying from 2 to 48 hours.

All the precipitation tests previous to that of the Kahn have some salient drawback which prevented them from being universally accepted. Dr. Kahn, having worked with these earlier precipitation tests and realizing some of their inherent weaknesses, began at the bottom and attempted to construct a test based upon sound scientific principles. He first attacked the method of antigen preparation and found that excess dilution was inhibitory to precipitation. This was a principle not recognized by his predecessors. He therefore prepared an antigen, using a modification of Neuman and Gager, in which dehydrated beef heart was employed and for the test it was diluted with a minimum amount of salt solution.¹

The second principle, the evolution of an unstable antigen-saline mixture, was also a de-

parture from all other precipitation tests. It was found that if Kahn antigen was diluted with a minimum of salt solution, a mixture was produced that contained a precipitate so unstable that it readily dissolved upon the addition of either salt solution or serum. This instability of antigen dilution, combined with concentration of the antigen product and the use of undiluted serum, formed the basis upon which an instantaneous Kahn test was built.

Another essential factor for a successful precipitation test is the necessity for a quantitative relationship between antigen and serum. It is necessary to add definite amounts of serum to proportional amounts of antigen, for it was found that an excess of antigen is inhibitory to precipitation. Various amounts of antigen were first used with the final establishment of a three tube test having a 1:3, 1:6 and 1:12 proportion of serum to antigen. Three different quantities of antigen, 0.05 cc., 0.025 cc. and 0.0125 cc., with a constant amount of serum, 0.15 cc., were found to meet the requirements of the majority of sera.

The antigen problem itself should be fully understood before a worker undertakes the manipulation of the Kahn test, unless standard antigen is procured from some central laboratory. If Kahn antigen is prepared and used without careful standardization, the resulting Kahn test would lose the superior qualities which the standard test now possesses.

The outstanding achievement regarding Kahn antigen is that it can be standardized so that all antigen made is of the same degree of sensitiveness, for it is well known that the standard product is uniform and remains stable indefinitely. It is one of the aims of those interested in the Kahn test to keep all Kahn antigen used in this and foreign countries to the same degree of sensitiveness. This has been accomplished as far as the large institutions are concerned, but there are still many small laboratories that continue to use antigen that has not been properly standardized.

Even when a standardized Kahn antigen is available there are several important details that have to be carefully observed. One of these essentials is that the serum should be absolutely free of all blood cells and foreign particles before it can be used for the Kahn test. It oftentimes happens that sera which has not been centrifuged sufficiently contains a fine precipitate that may be confused for a positive reaction in the completed test. If proper precautions are not taken, sera precipitate may cause a test to be reported positive when in reality it should be negative. This is, no doubt, the source of many false positive reactions reported by some workers. To overcome this

difficulty it is necessary that a serum control be made on all positive sera. This consists in adding 0.3 cc. saline to 0.1 cc. sera, shaking three minutes and observing the mixture for the presence of precipitate. If a precipitate is observed, the serum should be recentrifuged until clear and the test repeated.

Many workers do not realize the importance that agitation plays in the Kahn test, therefore, this step is conducted in almost any conceivable manner. Unpublished experimental data have shown that the speed and duration of the shaking period directly determine the end results. It is necessary to shake the tests three minutes with a speed of approximately 270 oscillations per minute, preferably by machine as more uniform results are obtained in this manner. If hand shaking is employed it should be done vigorously but not necessarily continuously. The shaking period has been made standard and should always be conducted in accordance with these requirements.

If the standard Kahn technic is employed, using standard antigen and the standard shaking method, incubation of the test can be entirely eliminated. Incubation at 37° C. is beneficial, however, if the test is shaken incompletely or if the antigen is less sensitive than the standard.

That one may understand and manipulate the Kahn test correctly it is necessary to have understanding of the principles that govern this phenomenon. These principles are as follows: first, concentration of ingredients that enter into the test; second, the necessity for an unstable antigen-saline mixture which is used with serum; third, the employment of correct serum-antigen proportions. Without a knowledge of these principles and the factors that govern the production of Kahn antigen, a worker using the Kahn test necessarily is following directions mechanically and is able to interpret the completed test only in a limited way.

33 Municipal Bldg.

1. Kahn, R. L.: *Serum Diagnosis of Syphilis by Precipitation, Governing Principles, Procedure and Clinical Interpretation of the Kahn Precipitation Test*, Baltimore, The Williams and Wilkins Company, 1925.

SOME SURGICAL AND ALLIED CONDITIONS OF THE THYROID GLAND*

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I shall consider in this discussion those abnormal conditions of the thyroid gland which have either a direct or remote relation to sur-

gery. For brevity of nomenclature I shall use the classification which so easily embraces all the multiple pathological conditions that may fall under this heading, namely: colloid (adolescent, physiological or simple) goiter; adenomatous (nontoxic and toxic) goiter, and exophthalmic goiter.

A discussion of colloid goiter should naturally be considered first, because it is from this condition that much pathology is later encountered. It is a matter of common observation that this dysfunction presents itself at the approach or onset of puberty, is much more frequent in the female, bears a definite relation to the establishment of menstruation, and often varies in size with the menstrual cycle, with pregnancy, and with acute infections. It remains for an indefinite period of time and may disappear with or without treatment; or it may later undergo characteristic changes as time progresses. It presents itself as a symmetrical enlargement of the gland which is of moderate consistency, not nodular, and produces no symptoms except occasionally those due to mechanical or psychic causes. The gland may enlarge to such a degree that pressure symptoms are experienced, or its unsightly appearance may cause psychic or neurotic manifestations. Many of the nervous symptoms experienced at this stage of life are due to the changes taking place in the endocrine system, and to the psychic effect of the presence of a disproportion in the contour of the neck. This condition is not toxic and so far as known produces no bodily disturbance. Increased metabolism is not present, the rate being normal or slightly below.

Surgery is not indicated and should not be instituted unless for relief of mechanical symptoms, or for a very large, unsightly gland. The enlargement usually disappears before the age of twenty or twenty-two, but if it persists after the age of twenty-five no permanent diminution in size may be hoped for, and iodine therapy will be of no avail.

The onset of this condition does not necessarily result from the changes accompanying puberty, but most likely results from the unusual demand made upon the gland for thyroxin and the inability of the gland to meet the added burden thrown upon it. As a result, a state of thyroid exhaustion is precipitated and unless a proper iodine balance is maintained the gland soon becomes unable to secrete the necessary amount of the normal thyroid substance, and large quantities of colloid material are secreted and stored in the acini. Whether this is an increased production or decreased absorption is not known, but it is

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generally considered that some change has occurred in the colloid, making it less absorbable than the normal colloid. Iodin at this stage may materially assist the overworked thyroid gland and prevent the secretion and accumulation of excess colloid.

It is common knowledge that colloid goiter bears a definite relation to the intake of iodine and that it is uncommon in districts where the iodine content of the water is high. In such districts, the added strain upon the thyroid gland resulting from adolescent changes is not manifested, as sufficient iodine is present in the water intake to permit the thyroid gland to elaborate a complete product. In districts where the iodine content of the water is low, colloid goiter can usually be prevented or cured if iodine therapy is instituted at the approach of puberty, or at the onset of thyroid enlargement. These facts, therefore, tend to establish the belief that it is not a physiological enlargement, as the name by which it is sometimes called would imply.

Iodin, in some form, has been used for thousands of years in the treatment and prevention of goiter. The Chinese burned sponges and the Greeks used boiled sea shells and sea weeds. It was not, however, until 1820 that iodine was recognized as a probable specific in the prevention and cure of colloid goiter. Chatin, in 1850, analyzed water, food and soil of goiterous and nongoiterous districts, and found the iodine content low in goiterous regions and high in nongoiterous. With these facts in view, the prophylactic and therapeutic administration of iodine was undertaken with astonishing preventive and curative results in a high percentage of colloid goiters.

It is now recognized that iodine deficiency is the important etiological factor in the development of this type of goiter, and that untreated colloid goiters are predisposed to the development of adenomata. Thus a properly treated colloid goiter may prevent the development of an adenoma in the fourth or fifth decade of life.

The thorough investigations of Marine and Kimball have presented the prophylactic and curative value of iodine in this type of goiter in a very definite and mathematical manner. In 1916 they undertook the study of the effect of sodium iodide upon the school children of Akron, Ohio. The children were classified into goiterous and nongoiterous, and treatment was instituted upon both types, using at the same time untreated children of both types as controls. Two grams of sodium iodide in 0.2 gram doses twice daily for ten days, were administered each spring and fall. Out of 2190

pupils treated, only five developed enlargement of the thyroid gland, while out of 2305 untreated pupils, 495 developed enlargement of the thyroid gland. Of 1182 with an enlarged thyroid at first examination, the gland decreased in size in 773, while in 1048 untreated pupils with an enlarged gland there were only 145 who showed any decrease in the thyroid enlargement. With these results one cannot well argue against the effectiveness of iodine therapy as a preventive and cure for colloid goiter.

So much has been written by the profession about the merits of iodine that many commercial houses have put on the market preparations of iodized salt, which has become quite popular and extensively used. This method of iodine administration is not to be commended; it is unscientific; the dose is inaccurate, and it is often taken by those having conditions contraindicating iodine, such as pulmonary tuberculosis and adenomata. There is considerable danger of converting a non-toxic adenoma into a highly toxic iodine hyperthyroidism.

I have so far considered only the type of goiter manifested by an enormous amount of colloid material within the acini of the thyroid gland. I have considered this condition because of its frequent occurrence, the fact that it is usually preventable, and that when it does occur a large percentage of cases are responsive to iodine therapy, and, lastly, because of its definite relation to the later development of adenomata, a purely surgical condition. An adenoma of the thyroid gland may be termed the end result of a neglected or unresponsive adolescent goiter. It is a goiter which has spent itself in a glandular effort to supply to the tissues the much needed thyroxine. It is found most commonly in the fourth and fifth decades of life, and it may remain as an apparently innocent intruder giving no untoward symptoms until activated by some unusual strain demanding excessive thyroid activity. The existing normal thyroid tissue is unable to supply the necessary thyroxine, and a feeble attempt is made by the adenomatous tissue to meet this requirement; an incomplete toxic product is elaborated and this results in toxic manifestations.

Such conditions are precipitated by pregnancy, the menopause, acute infections, profound grief, shock, or they may appear without apparent cause. An adenoma may be well buried in the substance of a colloid goiter and go for years undetected, snugly concealed by excessive colloid material. The gland is firm, contains one or many palpable nodulations,

has a fibrous capsule, and connective tissue of variable thickness and density. There is definite cell proliferation in contrast to colloid goiter, which is one of secretion and absorption. The proliferation may take place in definite encapsulated areas which are known as fetal adenomas, or a diffuse cell proliferation may be present giving the picture of an adenoma involving the entire gland. This proliferation may be either a definite multiplication of acini, characteristic of an uncomplicated true adenoma, or the proliferated epithelial cells may mass together, forming papillary projections into the acini. Perhaps a third form develops in which the interstitial cells predominate.

The fetal adenoma is a well encapsulated portion of the gland of miniature development and has the structure of the fetal gland. It is made up of closely compact sections of the gland with small cells and little or no colloid. Cellular changes are not present but the increase in glandular acini produces the enlargement of the tumor mass. These tumors may be present alone and permit of easy enucleation from the normal gland tissue, or they may be only a part of a general glandular hypertrophy and found imbedded in a diffuse adenomatous mass.

The diffuse adenomatous goiter is characterized by a general proliferation of acini which may be small or large, contain little or no colloid, to a fairly large amount in the large lumen of the acini, similar to the colloid seen in adolescent goiter. The cells are cuboidal in shape and do not produce papillary projections into the lumen, and the characteristic infolding of the epithelium in exophthalmic goiter is not present.

In the diffuse adenomatous type there is no pathological difference between the toxic and the nontoxic specimens. Small areas may present hypertrophy both in the adenomatous and the nonadenomatous tissue which resemble in individual cell appearance exophthalmic goiter, but they are few; as before stated, the characteristic infolding of the epithelium is not present.

Many areas of degeneration are often found. Large hemorrhages may occur, which may later partially absorb, causing a diminution in the size of the gland, giving the impression to the patient that some particular form of medical or charlatan treatment is producing a cure. These hemorrhagic areas may later undergo liquefaction with the subsequent formation of a well developed cyst, which to the end may show evidence of the original hemorrhage. Calcareous deposits may develop to an extensive degree; they occur in long standing goiters

and present many variations, such as shell formation, septae, or the complete involvement of an entire lobe. The calcareous deposits may increase to an alarming degree the difficulty of removal. Firm fixation may exist between the gland and the trachea, erosion to the trachea may have occurred, mediastinal fixation may be present, and extensive involvement of the superior poles may greatly handicap the ligation of these structures.

Extensive fibrous changes may occur and the gland become very hard, the epithelium become strangulated, degenerated and lying unattached in the meshes of the colloid. The cells may become detached and pressed together in such a manner that they appear as cell nests surrounded by connective tissue, giving the impression of malignant change. However, it will be noted that the cells are degenerated and that hyaloid and myxomatous changes have occurred in the fibrous tissue. Hertzler states that these are the only true innocent goiters. An extensive fibrous degeneration of a goiter may produce all the evidence of a myxedema and yet the patient present a well marked goiter.

Because of the fact that iodine has proven very beneficial in some types of goiter much promiscuous prescribing has been practiced, and as a result much damage has been done and many cases of iodine hyperthyroidism have been produced. The condition has no distinctive pathology, and on section no changes are encountered distinguishing it from the ordinary toxic adenoma. No hyperplasia or characteristic infolding of epithelium is observed. The condition clinically has been called iodine Basedow, because it resembles in many ways exophthalmic goiter. The syndrome is not characteristic of either exophthalmic goiter or toxic adenoma. Tremors, tachycardia, insomnia, loss of weight, exhaustion and nervousness occur as in other toxic goiters. The appetite, in contrast to exophthalmic goiter, is poor. Thrills, bruits and exophthalmos do not occur.

Adenomatous goiters are distinctly surgical and should be treated as such. A nontoxic adenoma carries with it no great surgical risk other than that incident to any other major surgical operation. All the adenomatous tissue should be removed, if possible, leaving only the uninvolved thyroid tissue. These goiters sometimes produce considerable mechanical disturbances from pressure upon the trachea and structures in the neck and thoracic aperture. Some difficulty may be encountered in their removal as portions of the gland may be well implanted between the trachea and the esophagus, adherent to the internal jugular

vein or penetrated well into the thoracic cavity. Extreme caution should be exercised to avoid the recurrent laryngeal nerves, injury to the deep vessels, removal of the parathyroid glands, and in case of thoracic growths, attention should be given the deeper vessels, pleura and the thoracic duct. A portion of the posterior capsule be left, thereby lessening the possibility of injury to the nerve or removal of the parathyroids.

In no other class of goiter management does it require more skill and experience than in the surgical treatment of exophthalmic goiter. Here one is dealing with a highly nervous, excitable individual whose body resistance and vital structures have been greatly damaged by the destructive effects of toxic secretion and increased metabolism. The pathological picture is characteristic. The goiter is of variable size, firm, meaty appearance, and some contain small adenomas, often undergoing degeneration. Significant of the disorder is the diffuse parenchymatous hyperplasia and hypertrophy. The alveoli are irregular with columnar epithelium and contain little or no colloid. The cells are high, large and numerous, with papillary projection and fold formation. After a brief course of iodine therapy these changes are less marked, areas of hyperplasia are replaced by colloid, and a normal appearance is partly assumed. Tolerance to iodine soon develops and persistent areas of hyperplasia remain.

The nature of the secretion in exophthalmic goiter is not definitely understood; whether it is an excess of normal secretion or an incomplete product is yet to be determined. It is highly probable that the gland is overstimulated and is elaborating a toxic incomplete product in a supreme effort to supply to the tissues the much needed thyroxine.

In 1922 Plummer began an extensive use of iodine in the form of Lugol's solution and in many ways changed the recognized conception of iodine therapy in exophthalmic goiter. The effect is often immediate, and converts many inoperable cases into quite satisfactory operable ones. With Lugol's solution preliminary ligation is rarely necessary and primary thyroidectomy is possible, often with little more risk than with an adenoma. Bad operations are eliminated, and tests for operability are not so frequent. Crises which formerly resisted all known therapeutic measures have been almost eliminated. Patients who formerly lost fifty pounds in a few weeks through diarrhea and vomiting and those who often failed to survive a crisis are now saved by iodine. A severe crisis will usually subside

within forty-eight to fifty-six hours after receiving Lugol's solution.

924 Rialto Bldg.

DISCUSSION

DR. HENRY J. McKENNA, Kansas City: Not having had the privilege of seeing either of these papers before hearing them read, it was necessary that I make a few notes in order to attempt discussion of them.

Dr. Engel's paper starts out with four groups: technic, preparation, recognition and repeating the preparation.

Anyone with a heart rate below eighty, no matter what other symptomatology that patient may show, is not likely to have an active thyroid. The first complaint of most patients with thyroid is heart trouble. That is what they attribute their complaint to—the heart and it is in going over these patients that one discovers they have thyroid disease which is the cause of their so-called heart trouble.

Dr. Engel spoke of a single metabolic rate. That to me is most confusing. I think it takes more than one metabolic rate to establish confidence, to establish a true diagnosis of thyroid toxicity, and more than one metabolic rate should be run. Because of outside conditions that influence the patient on the first metabolic rate, strangeness of the metabolism machine, and other things that excite the patient, the first running is likely to be misleading. Just because it is a laboratory test and comes to you in figures is no sign that it is infallible.

The metabolic rate I consider the outstanding diagnostic factor in thyroid disease. I don't think there is any single thing that we do to a patient in the clinical diagnosis that will tell us as much as a good, honest, true metabolic rate run properly. It gives us the differentiation in thyroid disease from so-called other nervous diseases, the differentiation of a tachycardia due to some outside influence and a tachycardia due to thyroid disease. Metabolism rates should be run very carefully and they should be run on all patients suffering with any degree of hyperthyroidism or active thyroidism of any kind.

The Doctor spoke of the eventuality of the toxicity in all goiters. I believe this is very nearly a true statement. If I were going to classify goiters from a truly surgical standpoint rather than from a pathological or clinical standpoint I would say there are only two classifications, the surgical electives and the surgical imperatives. The electives, when you see them, may be symptomless. Sooner or later, as Dr. Engel has well said, they will probably become the imperatives. If the colloid does not subside, as Dr. Hunt said, after twenty-five years they will then undergo some degenerating change and then that goiter becomes a surgical imperative. I would consider all substernal, intrathoracic goiters surgical imperatives, all adenomata surgical imperatives, all exophthalmic goiters surgical imperatives, and all goiters in patients over twenty-five years of age with a true symptomatology of hyperthyroidism, no matter how mild that symptomatology may be, are surgical imperatives.

Unfortunately in the mind of the profession and especially in the mind of the layman, there is a cardinal trinity of objections or factors, or whatever you may want to call them, that militates against surgery in thyroids. First, they have been considered notoriously bad risks; second, the permanence of the operative results has been questioned; third, numerous nonoperative procedures have been exploited.

They have been considered notoriously bad risks

because, as Dr. Hunt has well said, they come to the doctor at the time of their crisis, or when they are rising toward their crisis. Poor judgment has been exercised in selecting the time for operation. In the past, before Lugol's came into vogue, poor judgment was exercised in the type of operation. Thyroidectomies, and lobectomies were attempted on patients who could not stand them, instead of ligating. Preliminary ligations before Lugol's came into vogue, were used to quite a considerable extent and quite efficaciously to the advantage of the patient. So in the past as well as the present, poor judgment has been exercised and patients with thyroid have been considered notoriously bad risks on that account.

The permanence of operative results has been questioned in the past and still is questioned sometimes because not enough thyroid tissue has been removed. It must be remembered that the degree of toxicity is in proportion to the amount of gland. You may have highly toxic symptomatology in an extremely small gland; I have seen that. I have seen a gland in which I marveled at the amount of toxicity from such a small amount of gland. You have got to remove a good deal of gland in a highly toxic patient to get a result. Perhaps ten or fifteen per cent. of them recur, but not so many will recur in proportion as will have the symptomatology of thyroid if you don't remove enough gland.

DR. W. T. COUGHLIN, St. Louis: The patient who has a thyroid gland that is causing symptoms is a patient who should be given the benefit of surgery right away. I have not always believed that. I have been watching this thing pretty closely for the last fifteen years, at least. When I am confronted with a patient who should have been operated on long ago I feel that it would have been much better for everybody if the patient had been brought sooner. That is just as Dr. McKenna says: It is so very simple and so very easily done that it ought not to deter anybody, provided you can get the belief to prevail universally that with the present state of our knowledge surgery has more to offer than medicine to patients who have toxic thyroid. The advance that has been made recently in the surgical treatment of thyroid is due largely to Plummer and Crile. There are two things outstanding in the last five years in the surgical management of the thyroid, and I acknowledge my debt to these gentlemen without anything but pride. The use of Lugol's solution is of very great value. We have been wanting to see what is best, so we have been giving Lugol's solution to them all as they come, and we have not been receiving the benefit that we ought to receive from small doses of Lugol's solution. Many times when the medical patient comes over from the medical side, after having had Lugol's solution for a time without apparent benefit, we have found that by giving large doses such as four drams daily, we very often see immediate benefit.

We give Lugol's solution to patients whether they have exophthalmos or not. We soon find out who have an intolerance to it. Patients without exophthalmos, much to my surprise, have in many instances been able to bear large doses of Lugol's solution with benefit when they did not get benefit from the small doses. If a patient is going to be made worse with iodine, that soon comes to our notice in the acceleration of the pulse, and will be made manifest within two days. If it is making the patient worse, of course it is discontinued.

Then there is the other great step in the betterment of the outlook in surgery of the gland in the highly toxic patient, that is the method of Crile

in leaving the wound open after the removal of as much as possible of the gland. Leaving the wound wide open does away with much of the postoperative hyperthyroidism that has been the bugbear of surgeons in the past. The surgeon closes that wound when he sees fit, or he leaves it open if he sees fit.

Whether a patient is going into the crisis or coming out of it makes all the difference in the world. No patient is rushed to operation. The patient is in the house at least a week before operation. The metabolism is taken as soon as the patient gets accustomed to the surroundings, and again one week later. That is done always by the same person at the same hour of the day; if the metabolism is falling it is quite a favorable risk. If the metabolism is rising we think it an unfavorable risk. But I think pulse is more important than metabolism.

I want to ask those who have had experience with the matter, whether they have always found an accelerated pulse with a high metabolism. We recently ran across one who had a persistently high metabolism with a slow pulse. In that one we operated without any fear and came through successfully.

DR. ALPHONSE McMAHON, St. Louis: I should like to make a definite plea for the recognition of hyperthyroidism in its early and late stages. The necessity for recognition is stressed on account of the relation of the thyroid to the cardiovascular system. Our problem in thyroidism is the problem of the heart, and I think it is essential to make an early diagnosis if we are going to restore these patients to their normal condition.

The diagnosis of thyroidism late in the course of the disease renders the problem a great deal more difficult. We have then not only the general metabolic disturbance to deal with, but we have the cardiac problem as well, and the cardiac problem is the far more important one from many angles, particularly from the standpoint of the *restitutio ad integrum*, the return to previous efficiency.

If the thyroid continues the excessive function over a long period we find certain changes taking place in the cardiovascular system with definite involvement of the heart. One of the earliest manifestations is a tachycardia but later myocardial changes take place which ultimately result in a true form of congestive heart failure. Therefore in the late stages of thyroid disease our problem is much more complicated.

There are certain cardiac states, disturbances of rhythm for the most part, frequently occurring in the early stages of thyroid disease which when present without the obvious signs of hyperthyroidism should nevertheless make us very suspicious of an underlying disturbance of that gland. One of the most common of these cardiac disturbances is paroxysmal auricular fibrillation. Paroxysmal tachycardia is also frequently associated. These two disturbances of rhythm particularly in younger people should direct our attention to the thyroid. It is very essential then to make an early diagnosis of hyperthyroidism in this type of case to prevent the development of serious cardiac damage, which will in a large percentage of cases undoubtedly occur if the toxemia continues to exert its influence on the cardiac tissue. Disturbances of rhythm pass from the intermittent to the fixed state and we then have the possibility of permanent cardiac damage.

As to the late diagnosis of hyperthyroidism, I would like again to stress the cardiac element. Any case over fifty years of age with an auricular fibrillation where the common causes of this state may be ruled out should be definitely suspected of

having and underlying hyperthyroidism. That point is many times overlooked. It is essential to identify the thyroid as the etiological factor in the auricular fibrillation because of the therapeutic value of the surgical procedure in restoring the heart to a more normal state. The auricular fibrillation from other causes may not be definitely benefited by the ordinary therapeutic procedures, but the auricular fibrillation related to hyperthyroidism or having hyperthyroidism as a basis is in a large percentage of cases definitely relieved by the surgical procedure of thyroidectomy, with a restoration of the heart to a normal rhythm.

The second serious cardiac state associated in the late stages with hyperthyroidism is the result of the prolonged auricular fibrillation, that is, congestive heart failure. It differs in no way from the congestive heart failure associated with organic cardiac conditions or constitutional states. But here again we have the importance of the therapeutic procedure.

The congestive heart failure following auricular fibrillation due to hyperthyroidism can also be helped by the surgical procedure of thyroidectomy and the mere existence of congestive heart failure does not absolutely contra-indicate a surgical procedure. We have seen many cases with congestive heart failure improve very definitely following thyroidectomy. That is a point to bear in mind, for in many cases delay in operating may result in the death of the patient from cardiac failure.

Dr. Engel mentioned the importance of digitalization. I want to stress again that same point. It has been held that digitalis is of little value in thyroidism, or at least that the thyroid heart is not definitely benefited. To some extent this is correct, and it is a point which may serve as a diagnostic element, that is, the failure of a persistent tachycardia or a persistent auricular fibrillation to respond to digitalis should make us very careful in our study of the cases for hyperthyroidism as a basic factor. However in congestive heart failure the use of digitalis is distinctly indicated, indeed absolutely necessary in assisting the heart in its return to normal function. I feel that the use of digitalis in the simple tachycardia of hyperthyroidism is of value as a supportive measure in conjunction with the other procedures commonly used.

The cardiac disturbance due to hyperthyroidism is less apt to respond to the usual cardiac procedures as that due to other causes. It is this failure of response which should direct our attention to the thyroid as a causative factor so that proper treatment and if necessary surgical procedures may be instituted to relieve the toxemia and to prevent permanent cardiac damage.

DR. E. E. MANSUR, Jefferson City: I should like to say a few words regarding the X-ray treatment of toxic thyroid. I noticed that none of the gentlemen said a word about it. I know from the investigations that I have made that it is becoming more and more popular. On a trip north this year I found at Mayo's that they X-ray a good many, more and more each year. They prepare some patients for operation by preoperative X-ray therapy. They are operating on all thyroids which do not respond or do not stay put after X-ray therapy. There is no question as to its activity on the gland. It has a preliminary increasing effect on the metabolic rate when the proper dosage is given. You can always anticipate for the first week or ten days that that will happen; immediately following that it decreases. I have yet to see a single case in which a basal metabolic rate has not shown a decrease after X-ray treatment in a few weeks' time.

I believe the X-ray treatment is going to be more and more popular. It should always be governed, as well as surgical work on the thyroid, by the basal metabolic tests.

DR. LAWRENCE P. ENGEL, Kansas City, in closing: Much has been said in the discussion on the use of iodine in goiter. A survey at the present time is being made by the U. S. Public Health Service, but I don't believe their statistics have been published. Recently a representative of the U. S. Public Health Service was in consultation with Dr. Hertzler, and they discussed particularly the bad influence of the promiscuous administration of iodine. He simply made the point that as far as he had gone in the investigation they had ruled out the iodid salt as having any influence one way or the other. They have calculated that if the average American citizen uses iodid salt exclusively over a period of a year's time, he will receive not more than five grains of iodine, usually in the form of potassium iodid, so that the iodine in the table salt probably has very little to do with either preventing a simple colloid goiter of adolescence or causing exacerbations in the adenomas of adults.

The X-ray treatment of goiter certainly makes the removal of the goiter more difficult later on. My opinion is that it is not indicated except in patients other than the exophthalmic type who do not respond to rest and the ordinary treatment, that is who will not go into a remission. Small doses or appropriate doses of X-ray may be tried in the hope of sending the patient into a remission in order to make him operable, but probably it has no permanent effect upon the goiter at all.

DR. C. J. HUNT, Kansas City, in closing: The question of giving iodine in toxic goiters without exophthalmos was mentioned. Until recently it was not conceded to be the best policy, but now we know it does produce at times very gratifying results, especially in the type of abdomen that is complicated with the pathology that is characteristic of exophthalmic goiter, that is, where there is a marked hyperplasia of the epithelial structure. In that case Lugol's solution acts in a very specific way upon that portion of the gland.

Relative to treatment by X-ray, I do not see any particular advantage in attempting to use X-ray therapy. Its beneficial results are questionable when you have at your disposal a surgical procedure which is recognized to be the treatment par excellence for goiter, and in view of the fact that now the toxic goiters can be gotten in such condition that operation usually carries with it little more hazard than that upon the simple adenoma or upon any other major surgical condition.

SUPPURATIVE PERICARDITIS

With motion picture demonstration*

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The ancients knew about an inflammatory exudate in the pericardial sac. Morgagni and Rondelet mentioned it in their writings and Riolan proposed paracentesis in 1649. About the middle of the eighteenth century Senac

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gave a clinical description of pericarditis with effusion. Later Auenbrugger demonstrated the sign of dullness. In 1824 Collins, the student of Laennec, demonstrated the so called friction rub and this was considered the most important symptom. With the discovery of bacterial roles the relation of pericarditis to other diseases was established.

The pericardial sac is a serofibrous structure attached to the central tendon and adjacent muscular part of the diaphragm. The phrenic nerves are lateral and the vagi dorsal to it. The arteries are small, irregular branches of the thoracic aorta, the internal mammary and the bronchial arteries. The veins are tributaries of the brachiocephalic. Lymphatic drainage is into the glands that surround the vena cava.

Suppurative pericarditis is usually of hematogenous origin from some pre-existing focus of infection. Scarlet fever, measles, smallpox, cholera or gonorrhea may be primary. Rheumatic arthritis and endocarditis are sometimes associated with these conditions. Alcoholism, cachexia or nephritis may precede pericarditis.

Suppurative pericarditis is often secondary to pyemia, especially puerperal sepsis, and has been found with furuncle, paronychia and tonsillar abscess.

Infection may also spread to the pericardium from some adjacent structure, as in myocarditis, abscess or tumor of the heart, mediastinum, lung, or pleura, tuberculosis of the spine or ribs, infected lymph glands, esophageal carcinoma or penetrating foreign body, or lesions of the stomach, liver or peritoneum. Direct trauma may lead to pericarditis.

The organisms most commonly found are streptococci and pneumococci, and occasionally staphylococci.

The diagnosis of pericarditis with or without effusion is difficult. Two signs are usually considered characteristic—the "friction rub" and an extended area of precordial dullness. Other symptoms noted by various clinicians are, pain substernally and at the upper left abdomen or shoulder, dyspnea and orthopnea, increased heart rate, and paradoxical pulse.

The temperature, leukocyte count and muffling of heart tones help little. With chronic passive congestion there is cyanosis and cough. X-ray and needling of the pericardial sac give the most positive information.

In "Facts About the Heart," based on autopsy findings, Richard Cabot found from 100 to 700 cc. of fluid in the pericardial sac. Of 68 cases reported, only 7 were recognized during life. In a series of 186 cases pericarditis was suspected in only 43; because of a "friction rub" in 33, because of fluid in 3, and because of both fluid and a rub in 7; 77 per cent. of all

cases of pericarditis were missed clinically at the Massachusetts General Hospital.

REPORT OF CASE

A woman entered the hospital September 13, 1926, with the following history:

Complaint. Fever, cough, cyanosis, vomiting and dyspnea.

Onset and course. The last menstruation was May 15; August 6 the patient began to bleed. Three days later she was delivered of a four months pregnancy and curetted. Four days after this she had a chill and was again curetted. The next morning she awakened with a severe pain at her heart and had difficulty in breathing. After apparent improvement at the local hospital she was sent home. She became gradually worse, had fever and began to vomit.

Examination. The patient was cyanotic and breathed rapidly and laboriously. The pharynx was red and the breath foul. There was bronchial breathing, increased vocal fremitus, dullness at the lower lobe of the left lung, and the cardiac dullness was increased on both sides. The heart sounds were muffled but the apex beat was apparently within normal limits.

Diagnosis. Left lower lobar pneumonia (?); pericarditis with effusion.

September 14, the X-ray revealed an enormously widened pericardial shadow. Under local anesthesia the patient was needled three times for pericardial pus and nothing but blood obtained. This operation sent her pulse rate up from 122 to only 128 while her respiratory rate was not altered. When seen by the attending physician the next afternoon the patient appeared moribund, with imperceptible pulse, cold, wet, blue face, and labored respiration. Emergency paracentesis was resorted to. The patient was subconscious and felt no pain as the needle was introduced. A drop of blood appeared, then thick yellow pus. As the pus was removed syringeful by syringeful, the patient's color and senses returned. Her pulse was again obtainable and she rested decidedly more easy. We removed 115 cc. of material.

X-ray pictures were again taken. There was no diminution in the size of the pericardial shadow. Early the following morning pericardiectomy was done under gas anesthesia. The heart was found adherent to its sac, walling off a small empty pocket posteriorly. A rubber drain was left at the edge of the pericardial incision.

The patient left the operating room in fair condition, began to take fluids freely and was mentally alert. At 5 p. m. her pulse became weak and her respiration difficult. She died at 6:40.

The autopsy was begun one hour after the heart stopped beating. The small muscles were set and the internal organs were hot. The body was well developed, apparently 30 years old, the skin pale yellow.

The operative defect in the left chest wall was approximately 2 inches square. The mediastinal tissues were soggy and there was yellow pus within a poorly walled off narrow track under the xyphoid, extraperitoneal, between the mediastinum and a point 2 inches caudate to the xyphoid.

The pericardial sac was $\frac{3}{4}$ inch thick at points. Some stout and many delicate adhesions were between the heart and its sac, except dorsally where there was the thick, wrinkled, yellow lined wall of an abscess that had been recently drained. There were several small needle puncture wounds in the myocardium and one, approximately $\frac{1}{4}$ inch deep, between the abscess cavity described and the ventral pericardial wall.

Serofibrinous fluid filled the right pleural cavity.

The corresponding lung was collapsed and revealed several red infarcts. A few infarcts were in the right kidney. Petchial hemorrhages had occurred in the lining of the intestine. Grossly there was no evidence of pelvic infection.

Anatomic diagnosis. Miscarriage with subsequent uterine involution; streptococcal suppurative pericarditis with adhesions and dorsal abscess formation; suppurative mediastinitis pointing beneath the xyphoid; multiple infarcts of the right lung and kidneys; serofibrinous right pleuritis; cloudy swelling of the heart, kidneys, liver and spleen.

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DISCUSSION

DR. ALBERT S. WELCH, Kansas City: In the motion picture, attention was directed to the fact that there was apparently some relation between the pelvic trouble and the pericarditis that developed subsequently. Granting such a relation, it seems probable that the infectious organism in the pelvis must have reached the pericardium by way of the blood stream. Why, however, if this was a septicemia, should such an extensive pericardial lesion have developed with no similar gross change in other parts of the body? Certainly the anatomic relations, the size and course of the blood vessels supplying the pericardium offer no explanation.

Selectivity must have been an element in the pathogenesis. It is difficult to imagine that these streptococci circulating in the blood stream should have found especially favorable conditions for growth and reproduction where they were relatively free from the inhibiting processes of the human body only at this location.

It seems more reasonable to assume that the selectivity was exercised not on the part of the organisms, but on the part of their host; that the bacteria were transmitted by the human body to this location as part of the process of getting rid of them.

There are analogous situations. Pneumonia is at first a septicemia, but very soon the causative organisms become localized in those richly vascular tissues, the lungs, or collect in large numbers in the pleural cavities where leukocytes and ferments are poured out upon them. Early in pleural empyema the fluid is thin and full of bacteria, but later the pus thickens and becomes relatively sterile. The pneumococci have been destroyed and the human body has won its fight.

Embryologically, the pericardium and pleura have a common origin, and even after development is completed they are histologically and functionally quite similar. It is striking that in case of pericarditis with effusion there is also pleuritis with effusion. Noteworthy also is the fact that the predominating bacterial types present are pneumococcal and their blood relatives streptococci, the organisms responsible for most cases of pericarditis with effusion.

If a patient with pleural empyema does not succumb too early and is not operated, empyema necessitatis develops, the pus breaks to the outside, is discharged, and the patient recovers. Surgical drainage of an empyema cavity anticipates this process and is a distinct aid in the patient's recovery. It seems logical to assume that similar drainage of a pericardial sac full of pus should be therapeutically advantageous.

Patients do recover from pericarditis, more often so than not, as telltale scars at autopsy reveal; and I believe that with more knowledge not only of recognizing and treating the pericardial effusion, but also of diagnosing and handling the complications which are invariably present, such as septicemia or

pleural effusion, many of these cases can be saved and the now appallingly high mortality rate cut down to a more hopeful figure.

DR. A. J. WELCH, Kansas City, in closing: I have not much to say in conclusion except that I was agreeably surprised to observe how much interference you can use in manipulating the pericardial sac and the heart itself in these cases without producing any shock or real danger to the patient if it is carefully done. In other words, in searching for pus pockets in the pericardium, you search for them as you do for pus pockets in the pelvis of the abdomen, and with as little fear, because I believe that you can do the patient little harm in that particular operation.

AN UNUSUALLY LARGE CALCULUS IN A VESICAL DIVERTICULUM*

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Many cases of unusually large calculi have been reported in the literature but with the development of modern surgery and especially urology only a very occasional case of large calculus now presents itself.

While the calculus in this case is not as large as some others that have been reported, there are several interesting points in the case which differ somewhat from previously reported ones and will be referred to in comparison with other case reports.

REPORT OF CASE

B. H., referred by Dr. C. C. Conover, aged 54 years, cook, married, no children.

Family history. Mother died at 30, tuberculosis; father died at 48, accident. One sister died in childhood, cause unknown. No sisters living, no brothers living. No other history of tuberculosis or cancer in the family.

Past history. Mumps in childhood, no complications. Enuresis at ten years, duration does not recall. Two or three attacks of gonorrhea, last one in 1895, no complications; denies lues. Otherwise negative; moderate in habits.

Chief complaint. Difficulty on urination, tumor-like mass in bladder region, pain in hip extending down right leg. Twenty years ago had first attack of urgency and dysuria. Other attacks off and on to date. In 1910 again suffered from enuresis for a short length of time. Does not remember of ever having passed blood in the urine. At age 25 passed two small bladder stones and in 1912 the removal of a small stone from the urethra gave him some relief from dysuria. He had noticed a tumor-like mass for some time (two or three years); it had ceased to increase in size at the time of presenting himself. Careful questioning failed to reveal the history of an attack of renal colic. The pain in the right thigh had been present off and on for about one year; the pain commences in the bladder region and buttock and radiates down the leg. At times the patient

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would lose the power to use the leg and would fall down; this was especially noticeable when the bladder was full. The bowels move with a great deal of difficulty and require the frequent use of laxatives. No other complaints of importance.

Physical examination. Well developed, fairly well nourished adult male; height 6 feet, 1 inch; weight 160 pounds; temperature normal. Scalp and ears grossly negative. Left eye enucleated, right pupil regular, reacts to light and accommodation, slight arcus senilis. Nose and mouth grossly negative. Neck, palpable anterior and posterior cervical glands. Thorax well formed, expansion good. Lungs clear on auscultation and percussion. Heart regular, not enlarged, no murmurs. Spleen, liver and kidneys not palpable. A mass about the size of a lemon just above the symphysis and to the left of the midline only slightly tender on pressure; mass quite firm. External genitals normal. No metal instruments



Fig. 1. Stone 2 $\frac{3}{4}$ ounces removed from diverticulum of bladder.

could be passed into the bladder, meeting at the bladder neck a very hard and definite obstruction.

Rectal examination revealed in the bladder region a very large and hard mass. There were a few hemorrhoids present but they caused no symptoms. The extremities were normal, reflexes all present and equal. The inguinal and epitrochlear glands palpable.

Laboratory examination. Blood shows secondary anemia, quite marked. Blood Wassermann 4 plus. Urine contained many blood and pus cells, slight trace of albumen, no sugar.

Radiographic report by Dr. O. H. McCandless: X-ray films of B. H. show a calcified mass occupying the bladder area, extending from the second sacral segment to the pubic bone and almost filling the bony pelvis laterally. The borders are relatively smooth.

Conclusion. Bladder stone of unusually large size. Films of kidney region and ureteral region are negative for stone.

Operation. November 5, 1917, gas oxygen anesthesia. Through a midline incision the bladder was exposed; the tumor mass which was slightly to the left of the midline was exposed. The bladder wall was incised over it and a stone weighing six and one-half ounces was removed from a pocket in the bladder wall. Careful search failed to reveal an opening between this pocket and the bladder cavity. The

bladder was then opened and at the base a small stone was seen and upon examination this proved to be a projection of the large calculus which occupied a diverticulum back of the trigone. The orifice of the diverticulum was dilated and the stone removed; the use of obstetrical forceps was necessary to remove it; the weight was twenty-six and one-fourth ounces. On account of the patient's general condition no attempt was made to remove the diverticulum; dilating the opening of the diverticulum simply made one large cavity of the bladder and diverticulum.

The bladder mucosa and the bladder wall in the region of the small stone were quite thickened but there was no evidence of ulceration of the mucosa. Except for some congestion, the remaining bladder mucosa was normal. The prostate and vesical neck were normal. A drainage tube was inserted and the wound closed in layers.

Postoperative course. Recovery was slow and quite stormy, being marked by severe chills, fever, etc. The wound gradually closed and the patient was discharged on December 24, 49 days after the operation. He was voiding normally, the bladder discomfort and thigh pains having entirely disappeared.

Subsequent course. In September, 1919, the patient developed considerable bladder discomfort, dysuria, etc. Cystoscopic examination revealed an incrustation of the bladder mucosa involving the entire bladder. This calcific deposit cast a shadow on the X-ray films. These films, however, were accidentally misplaced. With considerable difficulty, the condition was cleared up, various chemical solutions, Bulgarian bacilli, etc., having been used.

In December, 1919, the bladder mucosa was fairly normal in appearance. The ureters could not be catheterized on account of the infolding of the bladder mucosa and from the diverticulum in the trigonal area.

In December, 1921, the patient presented himself complaining of difficulty, pain and burning on urination. Cystoscopy revealed a prostatic bar and small median lobe enlargement which was obstructing the vesical neck. On December 9, 1921, the bar and lobe were removed with the Young punch. The pathologist reported the tissue removed to be carcinomatous. The patient was referred to Drs. Donaldson and Knappenberger for deep X-ray therapy. He continued in fair health until April, 1922, when he commenced to have bladder distress which gradually increased and the records show he was almost a daily visitor at the office for irrigations, sounds, etc., from April 20, 1922, until September 29, 1922, when he was admitted to the Christian Church Hospital with a complete retention. Suprapubic fistula under local anesthesia was established. Death occurred October 14, 1922, four years and eleven months following the removal of the calculus.

The postmortem was limited to the urinary tract. Briefly, the prostatic carcinoma had involved the entire bladder. Both ureters were enormously dilated and both kidneys were pyohydronephrotic.

PREVIOUSLY REPORTED CASES

As stated in the opening paragraph, this stone is not as large as others which have been removed; but the majority of large calculi have been removed at postmortem or were followed by the death of the patient. I shall mention briefly only the most interesting reports of large vesical calculi removed at postmortem and at operation:

A case is reported by Earle¹ which weighed 44 oz. He attempted to remove it by the perineal route; only a portion of it was chipped away. The patient died in ten days; the stone was then removed at autopsy.

Coulson² states that the largest stone in the British collection weighed 46 oz. Mr. Cline attempted to remove it perineally without anesthesia from the bladder of Sir William Ogilvie. He used a cold chisel and blacksmith's hammer. After chipping away a teacup full of fragments, the patient's fortitude gave out and the operation was stopped. Sir William died in three days. It is also recorded that Sir William could only void while standing on his head.

In the case recorded by Deschamps³ "Coulson" the stone weighed 53 oz. and was removed postmortem in the year 1690 at the La Charite Hospital in Paris. The patient died at the age of 47 and had suffered with vesical symptoms from the age of 7 years.

Langenbuch⁴ reports a case in which he found a stone at autopsy which weighed 25 oz. He had observed the case for sometime but did not operate.

Four cases are referred to by Ashurst.⁵ Operation was followed by death of all. The calculi varied in size: 40½ oz. (Utterlyhowen); 32 oz. (Dupres); 31 oz. (De Guise) and 22 oz. (Ortellius).

Mitchell⁶ reported before the New England branch of the American Urological Association in 1915 the successful removal of a 30 oz. calculus.

Smith⁷ reports a very interesting case, the calculus weighing 38½ oz. The patient recovered. With the exception of Randall's case, which will be referred to later, this represents the largest calculus on record as having been removed from a living patient. Smith's patient was alive and in good health one year after operation. The patient was 55 years of age and gave a history of an attack of severe abdominal pain with hematuria at 20 years of age; hematuria about once a year until operated. For five years previous to the operation there were vesical symptoms of varying intensity almost constantly.

Singli⁸ reports a case in which the stone occupied the entire bladder. Obstetrical forceps had to be used in removing it; the patient survived. The weight is not given; no doubt, however, the calculus must have been quite large. Lieut. Col. Banker⁹ reports a successful removal of a 25 oz. calculus.

Milton,¹⁰ of Cairo, Egypt, reports the successful removal of a stone weighing 34½ oz. Stones are very common in this locality. This patient succumbed following operation, two months later from a renal calculus.

Thomas Smith¹¹ reports the successful removal of a 24½ oz. calculus.

Cayley¹² attempted lateral lithotomy for a vesical calculus but had to resort to the suprapubic method. The stone weighed 25½ oz. The patient died on the third day.

Randall¹³ reports a case and reviews the literature; the stone weighed 64 oz., or four pounds. The longitudinal circumference was 48 cm., the greatest horizontal was 40 cm. Randall's patient died 36 hours following operation. Randall made a most exhaustive search of the literature and concluded that: "The specimen was the largest of human vesical calculus of authentic record and certainly the



Fig. 2. Stone 6½ ounces removed from pocket in bladder wall. Same patient as Fig. 1. Both stones removed at same operation.

largest removed during the life of its host and the specimen was so unique that it would stand in a class by itself for all time."

Comment. As stated in the opening paragraph, such curiosities as here reported in modern medicine are quite rare. This case, in fact, was operated on ten years ago. The combined weight of the two calculi was 32¾ oz. and the literature shows that only a few larger stones have been removed from living patients.

The patient lived five years after the operation and died with a carcinoma of the prostate. There may or may not have been some connection between the two.

1014 Argyle Building.
102 N. Hamilton St.

REFERENCES

1. Earle: Philosophical Tr. Roy. Soc. Lond., 1809, part 1, p. 303.
2. Coulson: Lithotrity and Lithotomy, 1853, p. 211.
3. Deschamps, (Coulson): *ibid.*
4. Langenbach: Verhandl. d. deutsch. Gesellsch. f. Chir. (Apr.) 1879, p. 26.
5. Ashurst: International Encyclopedia of Surg. 1886.
6. Mitchell: New England Branch American Urol. Assn., 1915.

7. Smith, E. C.: Surg. Gynec. Obst. **29**:481 (Nov.) 1919.
8. Singli, M.: Indian M. Gaz. (Apr.) 1923, pp. 58-145.
9. Bamker: Med. Record, **58**:637, 1900.
10. Milton: Lancet, 1893, pp. 11, 687.
11. Smith, Thomas: Lancet, 1886, pp. 11, 244.
12. Cayley: Indian M. Gaz. **19**:24, 1884.
13. Randall: J. Urol. **5**:119, 1921.

DISCUSSION

DR. GEORGE H. EWELL, Kansas City: The patient from whom Doctor McCallum removed those stones, had a very stormy convalescence following the operation, but he recovered and was in very good health for about two years when he developed a bladder disturbance. The doctor investigated and found he had a prostatic bar. At the time of operation when the stone was removed the bladder was practically normal except for congestion at the opening of the diverticulum, and where the stone was on the interior the bladder was normal.

The doctor punched out the prostatic bar and the pathologist reported it to be a carcinoma. The man died of carcinoma of the prostate which invaded the bladder and produced bilateral hydronephrosis.

There have been only two other cases with larger stones where the patient has survived. One was Smith's case at Montreal where the man was alive one year afterward. That stone weighed thirty-eight ounces. The other was Smith's case that had a stone weighing thirty-two ounces. The patient was alive for a year and a half afterward. Randall's case was a four pound stone; the patient died the next morning after the operation. So this stone really is the second actual largest stone that has been removed with the patient surviving the operation for any length of time. He lived four years and eleven months.

TULAREMIA IN MISSOURI*

REPORT OF A CASE

OLA PUTMAN, M.D.

MARCELINE, MO.

F. J., a farmer boy, 17 years old, was admitted to the B. B. Putman Memorial Hospital November 30, 1926. He had been sick about two weeks and had the appearance of a severe illness. He seemed very sluggish mentally so that it was difficult to get a clear history of the onset and subsequent symptoms. He had a chill at first and possibly other light chills during the first week. His complaint on admission was weakness, soreness in the abdomen, loss of appetite and an infected finger. He stated that he hurt his finger while out hunting about a week before he became sick. Temperature 101.6, pulse 100, white blood count 19,000. The finger showed an old cut, not completely healed, not suppurating; glands not enlarged in the axilla though he stated that there had been soreness under his arm the first week. Urinalysis, chest, including X-ray, and spinal fluid, negative. Abdomen slightly tender but no signs of peritonitis.

The condition suggested septicemia but two blood cultures were negative and no malarial parasites were found; the leucocytosis should of course rule out malaria, tuberculosis and typhoid. Temperature continued to run from 98.6 in the morning to 102 in the evening, with a secondary anemia developing.

It was suggested to me by Miss Barrett, my technician, that it might be a case of tularemia. Upon

asking patient if he had cleaned a rabbit after cutting his finger he said that he had cut his finger while cleaning a squirrel and had then cleaned a couple of rabbits right afterwards.

A specimen of blood was sent to the Hygienic Laboratory, U. S. Public Health Service, Washington, D. C., and the following report was received:

Serum was found to agglutinate *Bacterium tularensis* in all dilutions from 1:10 to 1:2560, thus confirming the diagnosis of tularemia.

The boy was given mercurochrome in dextrose intravenously. After the second dose temperature dropped to normal. One other dose of 10 cc. was given and he was able to leave the hospital, the disease having lasted about four weeks.

We were unable to tell whether the mercurochrome and dextrose cut short the disease or whether it was self-limiting. We have been unable to find any other case of tularemia reported from Missouri.

CHANCRE OF NASAL SEPTUM

That a primary syphilitic infection of the nasal septum may not be as rare as generally supposed is indicated by three cases seen by Erwin P. Zeisler, Chicago (*Journal A. M. A.*, May 28, 1927), in private practice within the last five years. In two cases, the diagnosis was not made until the supervening glandular swelling and the exanthem made it self-evident. In one case, the correct diagnosis was made by the examining rhinologist, and confirmed by finding *Spirochaeta pallida* in the early seronegative stage, the ideal time for abortive treatment. The most important point in the early diagnosis of a hard chancre of the septum is the erosion or ulceration with indurated border on the septal surface, which bleeds easily but does not cause perforation. The discrete, painless submaxillary bubo is an important diagnostic point, as this does not occur in the commoner tertiary lesions within the nose. The differential diagnosis must exclude the various forms of late syphilis, particularly the circumscribed gumma of the septum with crater-shaped ulceration and perforation; tuberculosis, either in the form of the solitary tuberculous ulcer or an ulcerating lupus vulgaris, and epithelioma involving the septum. In rare instances, a rhinoscleroma may have to be ruled out.

HYPERMOBILITY OF JOINTS AS SEX LINKED HEREDITARY CHARACTERISTICS

In this family reported by J. Albert Key, St. Louis (*Journal A. M. A.*, May 28, 1927), there was a condition of hypermobility of the joints which appeared in the father and was not present in his parents, in any of his nine brothers or in his sister. It was transmitted by the father to all four of his sons but not to any of his daughters. It thus acts as a sex linked character. It is to be noted that while the father's feet were normal, except for the hypermobility of the joints, all four of the male children were born with bilateral deformities of the feet (three with talipes equinovarus and one with talipes equinus), but the five female children were normal. It thus appears that the clubfoot in this family was due to an abnormality in the germ plasm which is limited to the males. The hypermobility of the joints present in this family is to be distinguished from that present in the hereditary hypoplasia of the mesenchyme, which is characterized by brittle bones and blue sclerae. In this condition of inherited hypermobility the ligaments are lax, but they appear to be very strong and there is no blueness of the sclera, while the bones are unusually heavy and dense.

* Read before the Linn County Medical Society, Brookfield, December 14, 1927.

THE JOURNAL

OF THE

Missouri State Medical Association

FEBRUARY, 1928

EDITORIALS

CLINICAL LABORATORY SERVICE IN THE UNITED STATES

During the last decade there has been much discussion in medical and laboratory journals and particularly on the platform of medical and laboratory conventions, regarding the status of the clinical laboratories of the country. Especially it was regretted that the practice of clinical pathology, regarded as one of the medical specialties, had fallen into disrepute. The fact was lamented that the laboratory work had fallen into the hands of lay technicians and become the toy of persons who had a purely commercial point of view and very little training for the work. Much disgust and quite a strong note of despair was sounded by those few members of the medical profession who had championed the cause of clinical pathology and had adopted that specialty as a life work.

Many letters were received at the office of the American Medical Association from practitioners of pathology and leaders in medicine, regretting the drift toward lay commercialism, and urging that something be done to counteract it. What to do about it was a question. Organizations of chemists were interested because some of their members ran laboratories. Likewise organizations of clinical pathologists, bacteriologists, and of the medical profession were equally interested. Some of these organizations working alone undertook to investigate and to standardize the practice of clinical pathology, hoping to check the drift of that practice into the hands of technicians and restore it to its rightful place as a medical specialty. The efforts of those organizations working single handed were of little or no avail except to emphasize the enormity of the task and the necessity for cooperation.

The necessary cooperation of the laboratory and medical organizations was brought about in 1923 at the annual meeting of the American Medical Association in San Francisco. At that time, delegates sent by the American Chemical Society and the American Association of Pathologists and Bacteriologists separately petitioned the American Medical Association to estab-

lish some supervision over clinical laboratories. This led to the appointment of three committees representing the American Chemical Society, the American Association of Pathologists and Bacteriologists and the Council on Medical Education and Hospitals. At a joint meeting of these committees in Chicago early in 1924, after much deliberation, certain basic principles underlying sound laboratory service were agreed upon which stress especially a qualified bona fide director as the prime essential. The joint committee agreed that the work could best be conducted by the Council on Medical Education and Hospitals.

The first steps were: (a) to secure a complete list of laboratories in the country; (b) the preparation of a schedule of essentials in an approved clinical laboratory; (c) the preparation of a questionnaire by which the essential facts regarding each laboratory could be obtained. Each of these measures was carried out with the advice and cooperation of fifty or more clinicians and others expert in laboratory work, including the committeemen of the above named organizations, and by the officers of the American Society of Clinical Pathologists which very early showed an interest and from which the Council has received hearty cooperation.

After being revised and adopted by all parties interested, the questionnaire was mailed to all the laboratories of the country and a most hearty response was received. A complete report of the survey, "Essentials of an Approved Clinical Laboratory," and a preliminary list of laboratories which appeared to be fully complying with those "Essentials," were published in the Hospital Number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for April 3, 1926. The facts as published were submitted to the House of Delegates of the American Medical Association at the Dallas session in 1926 and approved by that body.

To assist in giving as fair consideration as possible to each application for approval, a strong committee of laboratory experts was formed in every state or section of the country. Those committees aggregate one hundred and twenty individuals representing, as equally as possible, the cooperating organizations and hence the interests of the laboratory profession. Under the direction of the Council, each committeeman makes his investigation and renders his report or advice independently of other committeemen in the same district.

At the present time, of the 150 of the 314 laboratories that have reported have been placed on the approved list and other applications for approval are constantly being received.

The Council lends all possible assistance to laboratories whereby they may become eligible for admission to the accepted list. Every laboratory that makes a report and signifies a desire to conform to the requirements is informed in regard to any deficiencies. The spirit of this movement all the way through is constructive. Any one who knows the condition of the laboratory field at the time this survey was begun would not expect very telling or spectacular results to be shown by this time; nevertheless, there are ample reasons for believing that actual improvements are being made: (1) A number of laboratories formerly run by technicians and only nominally under medical directors, have come under the ownership and actual control of clinical pathologists of high professional standing and ripe experience; (2) a number of laboratories under the control of technicians have gone out of business; (3) the "Essentials" have been published repeatedly and thus brought to the attention of all persons working in the field of clinical pathology; (4) there is an increased demand for pathologists to man the clinical laboratories of the country; (5) the director of the Mayo Foundation says that the salaries offered the pathological graduates of the Foundation are double those offered to other graduates of the Foundation; (6) the feeling of unsteadiness indicated in the discussions of a few years ago has subsided to a considerable degree and there is a more hopeful attitude on the part of clinical pathologists themselves.

The movement is still in its beginning but a good start has been made. To what extent physicians have actually discontinued sending specimens to unapproved laboratories and are sending them to approved laboratories is not known. The educational results, however, are becoming increasingly evident. In order to secure the best analyses for the benefit of their patients as well as to best conserve the interests of the medical profession, physicians should refuse to have their work done at laboratories conducted under the direction of nonmedical individuals. Much depends, also, on the continued hearty support of the various organizations and individuals who operate in the laboratory field. That this is already assured is indicated by the promptness with which laboratories are filling out and returning the form that has recently been mailed out by the Council on Medical Education and Hospitals for a complete and needed resurvey of laboratory service. The resulting data from this survey will be published for the benefit of all. Of course, laboratories that are not yet on the list

will be promptly considered for approval when they express such a desire.

The laboratories in Missouri which have thus far received the approval of the Council are:

Dr. Rudolph Buhman's Private Laboratory, 537 N. Grand Boulevard, St. Louis.

Gradwohl Laboratories, R. B. H. Gradwohl, M.D., Director, 3514 Lucas Avenue, St. Louis.

Dr. D. L. Harris' Laboratory, Metropolitan Building, St. Louis.

Dr. George Ives' Clinical Laboratory, Beaumont Medical Bldg., St. Louis.

Dr. C. L. Klenk's Pathological and Bacteriological Laboratory, Metropolitan Building, St. Louis.

National Pathological Laboratory, R. L. Thompson, M.D., Director, University Club Building, St. Louis.

Duncan Laboratories, Ralph E. Duncan, M.D., Director, Argyle Building, Kansas City.

Laboratory of Clinical Pathology, Frank J. Hall, M.D., Director, 304 E. 12th St., Kansas City.

Dr. Murray C. Stone's Laboratory, Woodruff Building, Springfield.

APPEAL TO DEDUCT TRAVELING EXPENSES WHILE ATTENDING MEDICAL MEETINGS

The American Medical Association has appealed to Congress to relieve physicians from the unjust discrimination imposed upon them by the Commissioner of Internal Revenue who refuses to allow physicians to deduct traveling expenses from their income tax incurred while attending medical meetings and postgraduate courses. Our argument in behalf of this relief has been presented to the Representatives and Senators from Missouri by a large number of our members and by our Council following the meeting at Kansas City, December 7. Responses from our congressmen have been very generous and favorable but whether Congress will extend the relief prayed for is doubtful at this time.

The deduction of expenses while attending meetings has been permitted by the Commissioner of Internal Revenue for certain other professions and businesses so that the medical profession is not asking for a special ruling in their favor. "It requests only," says *The Journal of the A.M.A.*, "that Congress revise the wording of the revenue act so as to make it clear that the medical profession has the same right to make deductions that is granted to other professions. As neither the Commissioner of Internal Revenue nor the Board of Tax Appeals has ever given the slightest indication as to the language of the act on which they rely in justifying the discrimination now practiced, the phraseology necessary to insure relief is difficult to suggest. But if Congress wishes to discontinue the discrimination, the Commissioner

and the Board can readily suggest the correct diction to accomplish that end.

A physician attends medical meetings to maintain and increase his efficiency. The denial of the right to deduct as an expense of medical practice the cost of the travel necessary to attend such meetings is the imposition of a tax on such attendance. It is a tax on professional efficiency and a hindrance which must react to the detriment of the patient and of the public. Since such a tax increases the cost of practicing, that it increases the physician's operating expenses, it tends to increase the price that sick and injured persons must pay for the medical services necessary for relief and cure.

That Congress ever intended to handicap medical efficiency and to increase the cost of the patient of sickness and injury to such an extent is difficult to believe. That it had no such intention is clearly to be inferred from the fact that it placed no such burden on chemists and ministers. It is inconceivable that Congress should elect the medical profession and the sick and injured as the sole bearers of such a burden."

Members who have not already written to their Congressmen and Senators should write at once and urge them to investigate this subject and do what they can toward relieving the profession of this unjust burden.

EARLY DIAGNOSIS OF TUBERCULOSIS

A nation-wide campaign for early diagnosis of tuberculosis will be launched in March, 1928, by tuberculosis and health associations of the United States led by the National Tuberculosis Association. This campaign is being undertaken because, according to the National Tuberculosis Association, hope of ultimately conquering the disease lies in prompt discovery of cases of tuberculosis before they have had opportunity to spread infection. The campaign will be sponsored throughout the state by the Missouri Tuberculosis Association and in St. Louis by the Tuberculosis and Health Society of St. Louis.

Although the necessity for early diagnosis has been stressed in the past, its importance has evidently not been forcefully enough impressed on the public mind. Physicians report that most cases of tuberculosis which come to them for first examination are in an advanced stage of the disease. A recent census shows that only 16 per cent. of patients in tuberculosis sanatoria in the United States are diagnosed as early cases on entrance. An intensive publicity cam-

paign will be conducted therefore to emphasize the importance of early diagnosis of tuberculosis as a means of checking the disease.

The aim of the campaign is two-fold: First, to focus the attention of the public at large upon the danger signs of tuberculosis and to urge yearly physical examinations for everyone; second, to stimulate renewed interest on the part of the medical profession in the recognition of early signs of tuberculosis.

Although all medical, social and civic organizations are urged to participate in the movement, the cooperation of physicians is especially sought as it is not unlikely that a considerable number of their own patients or others may come to them for a physical examination. The campaign has received the indorsement of the American Medical Association and the American Public Health Association. These organizations will assist in giving the movement publicity.

Talks, meetings, educational motion pictures, posters and distribution of pamphlets are some of the means which will be used to stimulate interest in this movement for early diagnosis of tuberculosis. Several million pieces of printed matter have been prepared by the National Tuberculosis Association for distribution through its affiliated associations.

A motion picture for lay audiences called "Let Your Doctor Decide," and another for medical groups entitled "The Doctor Decides," will be used in the campaign. More than 10,000 billboards will carry the message on early diagnosis. Posters which will be used have been designed by F. G. Cooper, internationally famous for his incomparable war posters, and Ernest Hamlin Baker, another artist of national prominence. The entire campaign will be financed by proceeds of the Christmas Seal sale.

According to statistics compiled by the Metropolitan Life Insurance Company among its industrial policyholders, the tuberculosis death rate was 224.6 per 100,000 persons insured in 1911 but for 1927 the indications are that the rate will not be much in excess of 90. If that figure is attained we shall have a 60 per cent. decline within a period of 17 years, one-half of which has been recorded within the present decade. Despite this great decrease, however, tuberculosis was responsible for 2,905 deaths in Missouri alone in 1926, which means that a tuberculosis death rate of 83.4 per 100,000 population still attains in this state. These figures further demonstrate the present need for the early diagnosis campaign.

JOURNAL OF THE WOMAN'S AUXILIARY

The Journal of the Woman's Auxiliary to the American Medical Association has just made its appearance. The first number bears the date of January, 1928, and presents a most pleasing appearance. It is a volume of forty-eight pages presenting a wealth of information and interesting comment on the work of the Auxiliary and its possibilities. All the special articles are contributed by members of the Auxiliary. An item requests the presidents of all state association auxiliaries to send the names of the members so *The Journal* can be mailed to them in order that every member of the Woman's Auxiliary throughout the country may receive a copy.

The splendid article by Mrs. W. M. Bickford, Marshall, President of the Missouri Woman's Auxiliary, gives an excellent description of the activities of the Missouri women.

Mrs. George H. Hoxie, Kansas City, Chairman of Health Education, has a splendid article on Public Hygiene.

Mrs. A. B. McGlothlan, St. Joseph, National Chairman for Hygeia, describes the outlook for extending subscriptions to that magazine.

It is announced that this number of *The Journal* of the Auxiliary is presented to the members by the auxiliaries of Texas.

Mrs. John O. McReynolds, Dallas, Texas, President of the Woman's Auxiliary to the American Medical Association, is editor-in-chief. Mrs. Allen H. Bunce, Atlanta, Georgia, Mrs. E. V. DePew, San Antonio, Texas, and Mrs. F. P. Gengenbach, Denver, Colorado, are associate editors and Mrs. W. B. Carrell, Dallas, Texas, and Mrs. W. F. Armstrong, Fort Worth, Texas, are staff editors.

Communications should be addressed to Mrs. John O. McReynolds, editor-in-chief, 307 Maple Avenue, Dallas, Texas.

We extend our felicitations to the Woman's Auxiliary to the American Medical Association and the Missouri State Medical Association on the establishment of this magazine and we predict for it a very useful and influential career.

FEDERAL HOSPITAL PRISON FOR ADDICTS

An important bill providing for the hospitalization of narcotic addicts imprisoned in the federal penitentiaries has been presented to Congress by Representative Cochran, of St. Louis, which should receive the serious and sympathetic consideration of the Congress. If passed, this bill will open an avenue of ap-

proaching this unfortunate class that promises the maximum of benefit in the treatment of their disease not hitherto possible. Unless Congress provides a hospital prison for these inmates, Mr. Cochran declares, the government will be compelled to build another penitentiary as the existing ones are now overcrowded.

There are now more than two thousand addicts among the population of the several federal penitentiaries. The simple commitment of drug addicts for criminal offenses gives no assurance of the eradication of the habit. This can be accomplished, when it is possible to do so, only by highly trained experts working under the favorable surroundings of modern hospitals equipped to render this particular kind of service. Needless to say none of the penitentiaries are so equipped.

The removal of these addicts from the general population of the penitentiaries would accomplish a twin benefit which the Congress should not overlook, that is, not only provide the best means of attempting to rehabilitate these unfortunate persons and return them to society freed from their handicap, but also remove the menace constantly confronting other prisoners when the addicts are incarcerated without segregation and special attention to treating the disease.

Traffic in narcotics, it is freely asserted, is one of the most serious problems facing prison authorities. Two thousand addicts can do incalculable damage in spreading the habit among the inmates of the penitentiaries for it is not conceivable that they will be entirely deprived of the drug. Incarceration of the addict in a general prison defeats its own object as it not only fails to benefit the victim but opens vast possibilities of spreading his disease among thousands who would prey upon society when released.

The Congress has here an opportunity of providing the means of studying and treating the drug habit on a large scale and under the most promising conditions.

NEWS NOTES

The Tri-States Medical Association of Mississippi, Arkansas and Tennessee will hold their 44th Annual Convention at the Hotel Peabody, Memphis, Tenn., on February 29, March 1-2. About 18 prominent physicians from the different states who specialize in the various branches of medicine will be in attendance. Dr. A. R. Cooper, Bank of Commerce Bldg., Memphis, Tenn., is secretary.

Dr. Edgar S. Allen, Columbia, professor of anatomy at the medical school of the State University, has been promoted to the position of assistant dean of the medical school.

Dr. G. M. Bristow, Princeton, Councilor for the Fourth District, and Mrs. Bristow, are spending the winter at San Antonio, Texas. Dr. Bristow recently passed the half century milestone in the practice of medicine, forty-six of these years being spent in Princeton, the first three years of his practice being in Macon County, Missouri.

Dr. C. A. Vosburgh, St. Louis, the retiring president of the St. Louis Medical Society, entertained the children of the members at the Society Auditorium on the afternoon of December 29, 1927. About 150 boys and girls responded to the invitation and were most pleasantly entertained. Motion pictures of a kind to please the imagination of the young mind were shown and ice cream, cake and candy generously supplied to the children.

The *Boston Medical and Surgical Journal* will complete its one hundredth year of publication on February 19, 1928. This unique record of medical journalism will be celebrated by the physicians in Massachusetts on Saturday evening, February 18, at a dinner in Boston to which all the members of the Massachusetts Medical Society have been invited. The Massachusetts Medical Society now owns the *Journal* and conducts it as the official organ of that Society and of other state medical associations in New England.

At the meeting of the Council in Kansas City, December 7, 1927, the following Committee on Arrangements for the Annual Meeting was appointed: Chairman, A. R. McComas, Surgeon; W. M. West, Monett; W. L. Allee, Eldon. On the nomination of this committee Dr. Dudley A. Robnett, Columbia, was elected chairman of the local committee on arrangements. Dr. Robnett will appoint the subcommittees required to care for the members during their visit at the Annual Session at Columbia, May 14, 15, 16 and 17, 1928.

Dr. Souter Smith, Springfield, wife of Dr. Wallis Smith, sailed for India January 7 where she expects to pursue her studies in cataract work. She will arrive at Delhi about the middle of February, going from there to the Civic Hospital Moga about 200 miles from Delhi. This hospital is under the charge of Dr. Mathra

Das, a Mohammedan eye surgeon who with Dr. Smith studied under the celebrated Dr. Fuchs, of Vienna, for three years. Dr. Smith expects to visit China and Japan before returning to Springfield about the first of May.

On January 4, 1928, Dr. John R. Bruce, Marshfield, Webster County, suffered the total loss of his home and office when fire destroyed the building. Fortunately the doctor and his family escaped injury.

A similar disaster overtook Dr. W. E. Aubuchon, Leadwood, St. Francois County, when his office was completely destroyed by fire early on the morning of January 9.

Here is an opportunity for members to extend assistance to fellow members in distress. Look over your library and equipment and see whether you can spare some books or paraphernalia that would be helpful to these unfortunate members until they have had opportunity to reequip themselves.

The United States Civil Service Commission announces open competitive examination for junior medical officer (intern). Applications for junior medical officer (intern) will be rated as received at Washington, D. C., until June 30, 1928. The examination is to fill vacancies in Veterans' Bureau Hospitals throughout the United States and in positions requiring similar qualifications. Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience. Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the U. S. civil service board of examiners at the post office or customhouse in any city.

State recognition of the high rank of Saint Luke's International Hospital School for Nurses, Tsukiji, Tokyo, was officially confirmed by the Imperial Japanese Department of Education by the publication under date of November 24, 1927, of an official decree conferring college (semmon gakko) rank on the institution, the course of study being for three years and one year extra for those taking special higher training. The school is the first institution for nurses in Japan to be thus recognized, no girls being admitted without a diploma from a girls' high school. Saint Luke's International Hospital is under the management of the American Episcopal Mission, its head being Dr. R. B. Teusler, surgeon to the American Embassy.

The American Board of Otolaryngology held an examination in Detroit, September 12, during the session of the American Academy of Ophthalmology and Otolaryngology. One hundred and two applicants appeared for examination, with .107 per cent. failures. An examination was held in Memphis, November 14, preceding the session of the Southern Medical Association, with .127 per cent. failures. In the course of the past year 369 applicants have been examined. In 1928 examinations will be held in Minneapolis on June 11 at the session of the American Medical Association; in St. Louis on October 15 during the meeting of the American Academy of Ophthalmology and Otolaryngology. Prospective applicants for certificates should address the secretary, Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, Nebraska, for proper application

The Abbott Laboratories, Chicago, one of the patrons of our advertising pages, manufacturers of medicinal chemicals and pharmaceuticals, has purchased the chemical firm of John T. Milliken & Company, St. Louis. For the present the St. Louis plant will be operated as a separate institution. Mr. Milliken had expressed in his will a desire for the business to be continued but the courts with the consent of his widow and heirs authorized the sale because it was found impractical to comply with Mr. Milliken's stipulation that a cash surplus of \$1,000,000 be accumulated. Under the management of the Abbott Laboratories the splendid reputation earned by John T. Milliken & Company will be fully sustained.

Mr. J. J. Cochran, Representative in Congress from St. Louis, has introduced a bill in the House of Representatives providing for the erection and equipment of a building to be used as a United States Narcotic Prison Hospital. Investigation has convinced Mr. Cochran that the government will be compelled to erect another federal penitentiary unless a narcotic hospital is built. It is stated that in the past ten years the population of the federal penitentiaries has increased 110 per cent. In June, 1918, there was a total of 44,082 prisoners in the penitentiaries and a total of 94,048 in June, 1927. At the present time there are 2,116 prisoners serving sentences for violation of the Harrison Narcotic Act. It is estimated that 2,000 of these are addicts, the remainder being convicted for illegal traffic in narcotics.

The United States Civil Service Commission announces open competitive examinations for assistant medical officer, associate medical officer, medical officer, and senior medical officer. Applications for these positions will be rated as received by the Civil Service Commission at Washington, D. C., until June 29, 1928. The examinations are to fill vacancies in various branches of the service throughout the United States. There are vacancies in practically all branches of medicine and surgery but there is especial need for medical officers qualified in tuberculosis or neuropsychiatry. Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience. Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the U. S. civil service board of examiners at the post office or customhouse in any city.

The branch stations of the Food, Drug and Insecticide Administration of the United States Department of Agriculture, which are located in sixteen of the leading trade centers of the United States, have been instructed to make a survey in their respective territories of the products subject to the federal caustic poison act and to initiate such action as may be necessary to see that all such products are labeled in accordance with its provisions, according to officials charged with the enforcement of the act.

The enforcement of the act was begun immediately upon the passage on December 22, 1927, of the deficiency bill which first provided funds for its enforcement. The purpose of the act is to safeguard the distribution and sale of certain dangerous caustic or corrosive acids, and alkalies in interstate and foreign commerce. It became a law on March 4, 1927, but no penalties were to be imposed until September 4, 1927, six months after its enactment. Manufacturers of the products subject to the act have now had over nine months in which to familiarize themselves with the requirements of the act and to label their preparations in accordance with its terms.

It provides in general that dangerous caustic or corrosive acids and alkalies when in a container suitable for household use shall bear a conspicuous and easily legible label containing the common name of the substance; the name and place of business of the manufacturer, packer, seller, or distributor; the word "Poison" to be in uncondensed, Gothic capital letters in twenty-four point size type, except when no other letters on the label are in type that large,

when the word "Poison" may be printed in type not smaller than the largest type used on any part of the label; the label shall also bear directions for treatment in case of accidental personal injury.

This act was introduced upon the recommendation of the American Medical Association and its passage sponsored by that body.

Dr. Kerwin W. Kinard, Kansas City, was installed as president of the Jackson County Medical Society at the meeting in the Medical Arts Building, January 3. Dr. Kinard received his A.B. degree from the University of Pennsylvania in 1905 and graduated from the medical department in 1908. After a year of study in anatomy and pathology at the University of Berlin he served for two years at the Lankenau Hospital in Philadelphia. Entering the medical corps of the United States Army in 1912 he saw service in the Philippines and China until 1916, and for the next three years served as commanding officer at Base Hospital, Chillicothe, Ohio. He then took charge of the Field Hospitals at Fort Riley and later became commanding officer at Camp Ayr, Mass. In 1919 he resigned from the army and moved to Kansas City where he entered private practice. He is a Fellow of the American College of Surgeons and for the past three years has been corresponding secretary of the American Association for the Study of Goiter. Dr. Kinard has always taken a deep interest in the affairs of Jackson County Medical Society and the State Medical Association and under his administration Jackson County Medical Society may anticipate a year of forward looking movements.

OBITUARY

JAMES J. O'KEEFE, M.D.

Dr. James J. O'Keefe, St. Louis, a graduate of St. Louis College of Physicians and Surgeons, 1903, died at his home January 14, 1928, of heart disease, aged 52.

Dr. O'Keefe had been practicing medicine in St. Louis for twenty years. He served his internship in the St. Louis City Hospital and St. John's Hospital. During the World War he enlisted in the regular army and was commissioned a captain in the Forty-Second Infantry. He was a member of the St. Louis Medical Society. He is survived by his widow, one brother and four sisters.

CHARLES R. WOODSON, M.D.

After a long fight with disease, Dr. Charles R. Woodson, St. Joseph, passed away on December 30, 1927. It was typical of his life. Aggressive in all things except his friendships, the doctor had an indomitable will which was conquered only by death. He gained position, honor and wealth, all in liberal degrees. He was a statesman, a friend, a neurologist and an executive financier. He had bestowed upon him all the honors of the medical profession in



CHARLES R. WOODSON, M.D.

ST. JOSEPH

Born May 17, 1848. Died December 30, 1927

city, state and national circles. He was successful in his profession and as the executive head of State Hospital No. 2 for long years. He was a noted agriculturalist and an inspiring teacher in the old Ensworth Medical College. Politically he controlled his party in Buchanan County for a quarter century. The Woodson Sanitarium stands a monument to his professional ability and executive force. He was as forceful in affairs of city and state as in his personal ambitions. He was bountifully endowed by nature in physique, in mental vigor and in those qualities which make great men. When his fellows in medicine were distressed he was always the first to come with aid. His political friends could depend on his support, and it

counted for or against as conditions demanded. He was always open and above board in his relationships. If he was for you you won; if not you lost. Toward Christmas every doctor who had rendered him the slightest favor during the year always received a bushel of his perfect Jonathan apples or a gallon of cider. He was the bulldog of the treasury on the board of the Ensoworth Medical College; he was the adviser and leader of affairs in the medical societies of his choice. Medical men all over the country knew and loved Woodson. He had the happy faculty as superintendent of State Hospital No. 2 of meeting the Assembly at Jefferson City and getting just the appropriation needed to maintain the hospital and keep it up to the times. He was a hard opponent, few successfully outwitting him, but he was a warm and loyal friend. He was a wonderfully well rounded man. He will be missed by a host of people of high and low degree, but especially by his family. His daughter, Mrs. Julia Edman, will continue his many business projects. His mortal remains were laid away January 2 in Mount Mora Cemetery by Rev. C. M. Chilton, pastor of the First Christian Church, of which Dr. Woodson was a member. Buchanan County Medical Society attended in a body to accent their appreciation of the doctor as a leader, guide and beloved fellow worker.

J. M. BELL.

RESOLUTIONS

The Buchanan County Medical Society adopted the following resolutions in memory of Dr. Woodson:

"WHEREAS, It has pleased Almighty God to call from our midst our beloved member and co-worker, Dr. C. R. Woodson, whose fellowship and counsel we have enjoyed for many years, therefore be it

Resolved, That we bow in submission to the divine will; we keenly appreciate the loss we have sustained in the death of Dr. Woodson, his indomitable energy, his kindly advice, his genial presence, his voice in debate, his better judgment in times of stress and the weight of his personality in our professional sphere of activity in which he was a leader; and be it further

Resolved, That the City of St. Joseph has lost a prominent and valued citizen, one who led in all those movements which make for civic progress and stability, whose voice was always heard in the interest of municipal advancement and uplift, whose influence was of that ponderous caliber which made such movements win; and be it further

Resolved, That his family has sustained a serious loss and suffers a shock which the world may not appreciate; we extend our sympathy to those who are bereaved; we mourn with them; and be it further


Resolved, That a copy of these resolutions be sent

to the family, published to the world and spread upon the minutes of our Society.

JOHN M. BELL
DANIEL MORTON
F. H. SPENCER
Committee."

Dr. Woodson was seventy-nine years of age when he died. He graduated from the Missouri Medical College (now Washington University Medical School), St. Louis, in 1872, and became a member of the Buchanan County Medical Society and the State Association in 1873. In 1915 he was elected president of the Missouri State Medical Association. He was a native of Kentucky but came to Missouri with his parents at an early age. He was a nephew of Silas Woodson, governor of Missouri, 1872 to 1874, and a brother of Judge A. M. Woodson, for twenty years a member of the Missouri Supreme Court. He was widely known as a neurologist and psychiatrist. In 1890 he was appointed superintendent of State Hospital No. 2, at St. Joseph, which position he held for seventeen years. He was a member of the American Psychiatric Association and a Fellow of the American Medical Association.

Dr. Frank I. Ridge, Kansas City, President-Elect of the State Medical Association, and Dr. Herman E. Pearse, Kansas City, Chairman of the Committee on Public Policy of the State Medical Association and for many years intimately associated with Dr. Woodson in medical legislative activities, also attended the funeral, being appointed by President Nifong to represent the State Medical Association.

 HERBERT G. TUREMAN, M.D.

Dr. Herbert G. Tureman, Kansas City, a graduate of the University Medical College of Kansas City, 1897, died at his home January 1, 1928, of heart disease, aged 53.

Dr. Tureman, widely known specialist in diseases of the ear, nose and throat, had been ill since August, 1927. A few days before his death, apparently realizing his condition, he wrote a letter to his friends thanking them for the kindness shown him during his illness and made his funeral arrangements, requesting that there be no music and that flowers be omitted.

He received his preparatory education in the Missouri Military Academy at Mexico, Missouri. After receiving his medical degree he practiced a short while, then went to New York where he spent two years in hospitals. The years 1902 and 1903 he spent in Berlin and in 1904 he went to Vienna to study. He was on the staff at St. Luke's Hospital, Trinity Lutheran Hospital, Research Hospital and St. Joseph's Hospital. He was a member of the

Jackson County Medical Society, the State Association, the Southwest Medical Society, the American Academy of Ophthalmology and Otolaryngology, the American College of Surgeons, and a Fellow of the American Medical Association. He was a member of the Westminster Congregational Church. Surviving him are his widow and one daughter.

CAT.

EDWARD W. SAUNDERS, M.D.

The death of Dr. Edward W. Saunders, St. Louis, which occurred on December 19, 1927, removed from our midst one of the outstanding landmarks of St. Louis medicine.

Dr. Saunders was born in Virginia in 1854. His father was Major Robert Chandler Saunders, a veteran of the Confederacy, and Dr.

under such eminent men as Schauta and others. The excellent training that he received abroad made a marked impression upon all his work through after life.

He was not only a student of medicine but became familiar with several of the modern languages, particularly French and German, which he mastered to a high degree. He was also a close student of the ancient languages, Greek and Latin. So efficient was he in Greek that he was at one time offered the professorship of this subject in his Alma Mater.

He gave special attention to obstetrics and diseases of children. On his return to this country he started practicing in South St. Louis and was the first man in the city to specialize in pediatrics. He became professor of pediatrics in the old St. Louis Medical College and later in Washington University of which latter institution he was an emeritus at the time of his death.

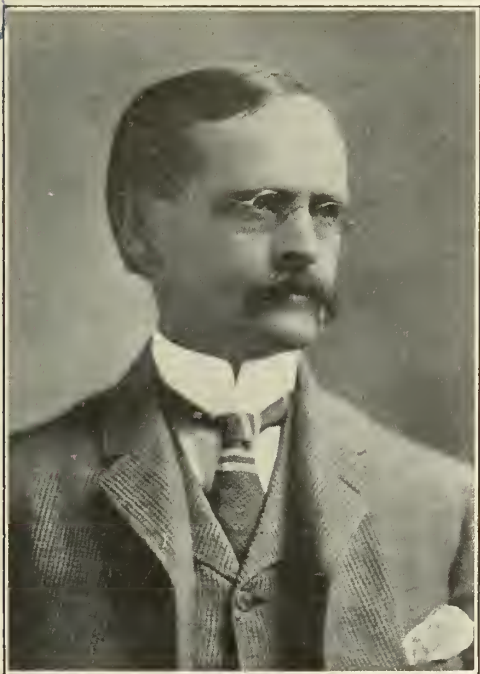
He was a bachelor and made his home with Mr. and Mrs. Roger Hayne. Mrs. Hayne was much interested in the unfortunate and poor and began the work that led to the beginning of Bethesda. Dr. Saunders was made president of this institution. From a small beginning it developed until today it has two hospitals, a home for incurables, a home for aged women and a foundling home; and during its existence has cared for and given aid to many thousands of people. It was a tenet of Bethesda never to ask aid from any one and practically never to refuse aid to any worthy person in need.

Dr. Saunders was always patient, sympathetic, and ready to help those who called upon him. Sometimes he was imposed upon by those who took advantage of his sympathetic nature, but it was the greatest pleasure of his life to give both his time and money to the poor and suffering.

He was always active and enthusiastic in anything pertaining to medicine. He kept well abreast of the times and made many interesting observations upon the causes of poliomyelitis and also did extensive work in various kinds of intravenous medication, particularly that recommended by Dr. Hugh Young during the past few years.

He was as widely known as any physician in St. Louis and probably touched the lives of more people of the city than any other member of the profession. He lived a life replete with good deeds and the profession has sustained an irreparable loss in his death.

ROLAND HILL.



EDWARD W. SAUNDERS, M.D.

ST. LOUIS

Born October 15, 1854. Died December 19, 1927

Saunders was one of seven children. At a very early age he evinced great interest in all things pertaining to the welfare of others. This trait of character developed and expanded throughout his life. He entered the University of Virginia in 1873 and was graduated in 1876. He then went abroad and was a student of medicine in the great centers of the old world; particularly was he interested in the splendid clinics of Vienna. Here he studied for two years

WILLIAM F. MITCHELL, M.D.

The St. Louis County Medical Society adopted the following resolutions in memory of Dr. William F. Mitchell, Webster Groves, who died November 29, 1927:

"WHEREAS, It has pleased the Almighty to remove from our presence our respected co-worker, Dr. William F. Mitchell, therefore be it

Resolved, That in his death the medical profession has lost one of its loyal and respected members and the public a friend who will be sadly missed; that in token of our esteem for our fellow member these resolutions be incorporated in the minutes of our Society and copies sent to THE JOURNAL of the Missouri State Medical Association and to the widow of Dr. Mitchell.

W. H. TOWNSEND."

BONIFANT R. HARMON, M.D.

Dr. Bonifant R. Harmon, Springfield, a graduate of the St. Louis College of Physicians and Surgeons, 1890, died November 5, 1927, at Carthage, aged 60. Dr. Harmon was a member of the Greene County Medical Society.

MISCELLANY

FEDERAL LEGISLATION OF INTEREST
TO THE MEDICAL PROFESSION LIKE-
LY TO COME BEFORE THE SEV-
ENTIETH CONGRESS

Matters of interest to the medical profession that are likely to be considered by the Congress that assembled in Washington on the first Monday in December are scheduled below, with a statement of the policy of the American Medical Association with respect to them. Other matters that may come up for consideration by Congress and the policy of the Association in regard to them will be made known through the pages of the *Journal* or otherwise, as occasion arises. The cooperation of organized medicine and of every physician throughout the country in carrying into effect the policies of the Association with respect to all such measures is necessary, if success is to be attained.

The matters and policies set forth should be brought to the attention of senators and representatives but the American Medical Association asks no pledge nor promise from any senator or representative with respect to his attitude toward any legislation whatsoever. It asks only that he keep an open mind with respect to matters in which medical men are interested until after the profession has had an opportunity of stating its views and its reasons for them.

1. *Safeguards in Promulgation of Regulations Under National Prohibition Act and Harrison Narcotic Act.* Legislation will be proposed to insure notice to all interested parties of every regulation proposed by the Commissioner of Prohibi-

tion under the National Prohibition Act and the Harrison Narcotic Act. Such legislation will provide for an opportunity for the medical profession to be heard before the promulgation of any such regulation, for adequate notice of promulgation and reasonable time after promulgation for adjustment of affairs so as to comply with new requirements, and for publication of all such regulations so as to make them readily available to the profession throughout the United States. As the law now stands, the Commissioner of Prohibition can lawfully promulgate a regulation without notice to anyone of his intention to do so, and it may take effect from the moment of its approval by the Secretary of the Treasury. The law now in force does not require that it be published at all. The proposed legislation has the approval of the House of Delegates of the American Medical Association and of various state medical associations.

2. *Sale of Dangerous Cosmetics, Etc.* Legislation will be proposed to safeguard the people against the manufacture, distribution, and commercial use of dangerous cosmetics, etc. Such legislation originated in the Section on Dermatology and Syphilology of the American Medical Association and has received the approval of the House of Delegates. It calls for supervision and control by the federal government of interstate and foreign commerce in cosmetics, etc., and of the manufacture and sale of such articles in the District of Columbia and other places under the exclusive jurisdiction of the federal government.

3. *Federal Income Tax and Reduction of Traveling Expenses.* Legislation will be proposed to give physicians the right to deduct in the computation of their federal income taxes traveling expenses incurred in attending meetings of medical organizations. A similar right is now granted chemists, ministers, corporations, and, it is believed, business men generally. This matter has been called to the attention of the Congressional Joint Committee on the Revision of the Revenue Act. It is hoped that it may be adjusted without having recourse to legislation. Should legislation be required, however, the support of all senators and representatives will favor its enactment.

4. *Amendment of National Prohibition Act.* Legislation will be proposed to permit physicians to prescribe for patients in need of alcohol and alcoholic liquors such amounts as the attending physician believes necessary. The proposed legislation will provide for such reasonable restrictions as the Board of Trustees deems wise and best after a conference with the Commissioner of Prohibition. This proposed legislation has received the endorsement of the House of Delegates of the American Medical Association.

5. *Pay of Medical Officers in the Army and Navy Retired on Account of Disabilities Incurred in Line of Duty in the World War.* Legislation will be proposed, it is believed, to secure for medical officers who served in the temporary forces of the army and navy during the World War and who were disabled by injuries or diseases resulting in the discharge of duty, the same retirement privileges as are accorded to medical officers in the regular army and navy under similar conditions. Such legislation has received the approval of the House of Delegates of the American Medical Association.

6. *Medical, Surgical and Hospital Services for Veterans Suffering From Diseases and Injuries Not of Service Origin.* Legislation may be proposed to perpetuate and enlarge the free medical, surgical and

hospital services now given to veterans, rich and poor, for injuries and diseases *not* incurred in the line of duty. The World War Veterans Act of 1924 authorized the Director of the Veterans' Bureau to admit to hospitals under his control veterans of all wars, military occupations, and expeditions subsequent to 1897 *without regard to the origin of their disabilities*, so far as the needs of veterans suffering from injuries and disabilities of *service origin* might permit. As a result, during the fiscal year 1925, there was an increase of 20 per cent. in admissions to such hospitals, and on an average for every two veterans admitted for service-connected disabilities one veteran was admitted for non-service-connected disabilities. The announced building program of the Veterans' Bureau, however, plans not to reduce the capacity of its hospitals so as to provide only for veterans suffering from service-connected disabilities; it plans to maintain such hospitals on their present basis, thus perpetuating all beds now available for non-service-connected injuries and disabilities. This will allow, too, for an increase in the number of such beds, as the demand for beds for the treatment of service-connected injuries and disabilities will diminish as time goes on. What the plan proposes is the maintenance and enlargement of the system of federal state medicine already begun under the World War Veterans' Act of 1924. The American Medical Association does not desire the diminution by even a single bed of the facilities necessary for veterans suffering from disabilities of service origin. But legislation that will provide and maintain, and even enlarge, at government expense, the capacity of the hospitals under the control of the Veterans' Bureau so as to provide for the free treatment of patients, rich and poor, suffering from injuries and disabilities in no way whatsoever connected with service, has been condemned by the Board of Trustees of the Association.

7. *Protection of Residents of the District of Columbia From Incompetent Healers.* Legislation will be proposed to drive incompetent, unlicensed practitioners of the healing art from the District of Columbia and to hinder their return. Through lax enforcement of the medical practice act now in force, and possibly to a certain extent because of inadequacies in it, a large number of unlicensed osteopaths, chiropractors and other healers have established themselves in the District of Columbia and are now engaged in the diagnosis of diseases and injuries. The situation is a menace to the health of all who reside permanently or temporarily in the District. The very number of such unlicensed persons makes it difficult to dislodge them, and various organized groups of irregular practitioners see the advantage of recognition by the Congress of the United States and exert their utmost endeavors to obtain it. At the request of the Medical Society of the District of Columbia, the House of Delegates committed the American Medical Association to the support of an effort to obtain the enactment of a practice act for the District that will protect the people against incompetence and quackery. Congress, however, is the only legislature that the District of Columbia has. Every senator and representative throughout the United States is, therefore, a legislator for the District. It is for that reason that appeals should be directed to them for sane legislation for the protection of the people of the District.

8. *Sheppard-Towner Maternity and Infancy Legislation.* It is rumored that legislation will be introduced to authorize the continuance of federal activities under the Sheppard-Towner Maternity and Infancy Act, after the expiration of the period to which

such activities are now limited by law. The rumor may have no foundation, however, for it was widely understood when the life of the Sheppard-Towner Maternity and Infancy Act was extended by the Sixty-Ninth Congress that the proponents of such legislation would not ask that the policy embodied in that act be continued beyond the time limit then set, June 30, 1929. If legislation is proposed to extend the life of the act beyond the time limit set or to embody the principles of the act in other legislation it should be borne in mind that the House of Delegates of the American Medical Association has gone on record as firmly opposed to the act and to the policy of the act.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred Thirty-First Meeting, November 4, 1927

1. LIPOID NEPHROSIS IN PREGNANCY.—By DRs. WM. G. DIECKMANN and V. L. GOULD.

This study was undertaken after a diagnosis of lipoid nephrosis had been made on a woman who had been followed through two pregnancies, and a search of the literature revealed that no complete study of the disease with relation to pregnancy had been reported. The chief features in this disease are massive edema, albuminuria, doubly refractive bodies in the urine, no NPN retention, low serum protein with low albumin-globulin ratio, and the highest lipemia of any condition, the cholesterol being from 0.3 to 1.3 per cent.

Our patient was 22 years old and about 20 weeks pregnant when hospitalized. She had first noticed swelling of face and ankles about three months previous, which gradually increased. On

admission there was general anasarca, B.P. $\frac{154}{90}$,

a PSP of 34 per cent. in two hours, albuminuria of 1.9 per cent. by Kjeldahl, and doubly refractive bodies in the urine. The blood findings were Hb 64 per cent.; cell volume 29 per cent.; NPN 30 mgm., serum chloride 613 mgm.; serum

cholesterol 560 mgm.; serum protein 3.2 per cent.; albumin-globulin ratio 1.0; pH 7.42; CO₂ 46 per cent. vol., surface tension 54.7 dyne cm., sedimentation time 15 min. The sugar tolerance curve was similar to a diabetic curve. This seems further proof that the disease is a general metabolic disturbance.

The patient improved with rest in bed and was discharged. Three weeks later she returned and delivered a still-born macerated fetus of about 25 weeks gestation. Edema was much worse at this time but improved after an oliguria was relieved with intravenous glucose injections.

She was discharged in fair condition, only to return three months later with a pregnancy of ten weeks gestation. At this time there was generalized edema, B.P. $\frac{150}{75}$, and large amounts of albumin in the urine. The blood chemistry, which was unchanged from the previous visit, clearly indicated that we were not dealing with eclampsia.

Abdominal hysterotomy with tubal resection was done. Uneventful recovery followed. Since then we have kept in touch with the patient through the clinic. The albuminuria persists, as does the edema of the extremities. The only changes which have occurred in the blood chemistry have been the increase in cholesterol with the aggression of symptoms and vice versa; the rise in surface tension as edema disappeared, and a slight increase in serum proteins since the termination of pregnancy.

We believe more cases of nephrosis in pregnancy would be found if the cases were studied closely. This is suggested by the fact that the blood changes occurring in normal pregnancy are aggravated in nephrosis. In pregnancy the serum proteins fall progressively to delivery. The cholesterol gradually increases from early pregnancy to a few days post partum. The chlorides may show a slight increase. The serum surface tension is reported lowered during pregnancy. Thus a pre-existing tendency to nephrosis would most certainly be aggravated by pregnancy.

2. THE RELATION OF THE CORPUS LUTEUM HORMONE AND FOLLICULAR EXTRACT IN REGULATION OF THE SEXUAL CYCLE IN THE GUINEA PIG.—By Drs. LEO LOEB and W. B. KOUNTZ.

In a series of experiments the effect of the injection of follicular extract in guinea pigs during various phases of the sexual cycle, during pregnancy, after hysterectomy, in immature and in undernourished guinea pigs was analyzed. Our investigations confirm the views previously expressed by one of us that two phases can be distinguished in the sexual cycle of the guinea pig. The conditions obtaining in the first, the follicular phase, can to a certain extent be imitated through injection of follicular extract. The second phase of the sexual cycle, the lutein phase, is under the control of substances given off by the corpus luteum. The latter hormones are distinct from those produced by the follicles. However, we found, contrary to our expectation, that the injection of follicular extract prevents ovulation although during the follicular phase ovulation normally occurs at an early stage of the new cycle. The follicular extract causes of proliferation of the vagina and causes hyperemia and

edema in the mucosa of the uterus, but is unable to sensitize mucosa to mechanical stimulation. The hormones of the corpus luteum on the other hand are not able to cause proliferation of the vagina, but cause predecidual proliferation and make possible the production of placentomata. In the mammary gland of the guinea pig proliferation occurs under the influence of substances given off during the follicular phase and as the result of injection of follicular extract. It also occurs under the influence of the corpus luteum of hysterectomized and pregnant guinea pigs, but not usually under the influence of the cyclic corpus luteum. Normally preserved cyclic corpora lutea as well as those of hysterectomized and pregnant animals, prevent ovulation, and the large corpora lutea prevent also the proliferation of the vagina which would otherwise take place under the influence of follicular extract.

3. THE PERISTALTIC AND ANTI-PERISTALTIC MOVEMENTS OF THE URETER AS AFFECTED BY DRUGS.—By Dr. CHARLES M. GRUBER.

Engelmann in 1869 was the first to make a detailed study of the peristaltic and antiperistaltic activity of the ureter. He noted upon pinching the ureter antiperistalsis above the point of stimulation and peristalsis below. Since Engelmann's publication many men have studied the effect of drugs upon the rhythmical contractions of excised segments of human, pig, dog, cat, rabbit, guinea pig and rat ureters. However, no attempt was made to study the effect of drugs upon the spontaneous peristaltic and antiperistaltic contractions in excised ureters. Spontaneous antiperistalsis has been doubted to exist by many. Some have noted regurgitation of urine from the bladder into the ureter.

Excised pig ureters were used. These were kept in an ice box from 3 hours to 108 hours, before being employed in the experiment. By means of a special apparatus the two ends of a segment of ureter could be studied either separately or united. Both longitudinal and circular muscular contractions were recorded on a kymograph. The bath was one of equal parts of Tyrode's and Locke's solution having a pH of 7.8 at a temperature of 39.5° C.

Both peristalsis and antiperistalsis were observed. Generally speaking the rate of highest rhythmicity is located in the kidney end of the ureter although this is not always the case.

Cooling the bath of the pacemaker, decreasing the pH of the bath of the pacemaker, addition of sodium phenobarbital or of papaverine hydrochloride to it caused in some cases a temporary cessation of activity and a reversal of the direction of the contraction wave. Thus when peristalsis was present antiperistalsis was produced and vice versa. The fluid within the lumen is propelled by the contraction in each case in the direction of the contraction wave.

Increasing the pH of the bath of dependent segment, addition of adrenalin chloride or morphin sulphate to the bath caused the exposed segment to contract more rapidly and become the pacemaker. Thus when peristalsis was present antiperistalsis was produced and vice versa.

When morphin sulphate and papaverine hydrochloride were both added to the bath it was found that 1 mgm. of papaverine hydrochloride antagonized the stimulating effect of 100 mgm. of morphin sulphate.

One Hundred Thirty-Second Meeting, December
12, 19271. STARVATION KETOSIS OF MAN
AND THE MONKEY.—By DR. THEO-
DORE E. FRIEDEMANN.

This is a study of 7 monkeys, including 1 South American, 5 Old World, and 1 lemur; 4 males and 3 females. Their distribution was as follows: South America 1, India 2, Celebes 2, West Africa 1, Madagascar (lemur) 1. The lemur was a normal healthy animal which a few weeks previous had been received at New York from Madagascar. The other animals suffered from "cage paralysis." On starving these animals for periods of 3 to 4 days a very severe ketosis resulted, except in the case of the lemur. In three instances the animals at the end of the third day went into coma, but were relieved of the symptoms by intraperitoneal injection of sterile glucose (*without insulin*).

The steer, cow, goat, sheep, pig, cat, dog, rat, and guinea pig, in fact every animal so far studied, when starved develops only a very slight ketosis. The lemur which belongs to the lowest class of primates behaves like the animals mentioned, but the higher monkeys and man show a strong ketosis. It appears therefore that only man and the monkey have the ketogenic-antiketogenic mechanism, and that the lower animals can burn the acetone bodies directly without the antiketonic action of glucose. That the latter assumption is probably correct is borne out by the following facts: (1) Animals (rat, dog, pig) on very high fat diets excrete only small amounts of acetone bodies. (2) The growth curve of animals (rats) from birth to maturity is normal on very high fat diets. (3) The tolerance for intravenously injected sodium acetate is very high (dog, cat) in normal animals and is not markedly lowered by depancreatization or phlorhizinization.

DISCUSSION

DR. SHAFFER: Dr. Friedemann has brought out some new and very interesting information which it would take some courage to announce in the state of Tennessee! His conclusion that there is a qualitative difference between the fat-carbohydrate metabolism of the primates and of other animals is logical but is one that is difficult to form convictions about. The fasting ketosis in most animals is trivial compared to that found with monkeys and man. Perhaps these traces of ketosis found with other animals indicate a qualitative similarity, but a tremendous quantitative difference. At any rate the similarity of the metabolic behavior of these monkeys to man is very striking; and observations of this sort have an anthropological significance quite as great as structural variations.

2. PHOSPHATE CONTENT OF RENAL
CAPSULAR FLUID IN NECTURUS.—

By DRs. F. O. SCHMITT and H. L. WHITE.

The phosphate content of the plasma in *Necturus* varies from 5.7 to 8.5 mg. P per 100 cc., by Briggs' or Benedict and Thies' methods, while there are only 1.3 to 2.0 mgm. P per 100 cc. of fluid obtained from the renal capsules. It is thus apparent that a large proportion of the plasma phosphate determined as inorganic phos-

phate is in a form to which the glomerular membrane is impermeable.

DISCUSSION

DR. SHAFFER: Attention should be called to what a remarkable feat the collection and analysis of glomerular fluid is. Only a few years ago blood sugar determinations were done only occasionally and then only on 20 to 25 cc. of blood by a long and complicated laboratory procedure. Now accurate determinations may be made on a few tenths of a cc. in much shorter time. But Doctors White and Schmitt have passed far beyond such refinements. They are able to determine the amount of glucose or phosphates in 3 or 4 cu. mm. (!) of glomerular fluid—only one-hundredth the volume used in our most refined micro methods.

DR. WHITE: If the permeability of the glomerular membrane becomes abnormally increased due either to mechanical injury by the pipet or to a failing circulation the phosphate content of the capsular fluid is increased, approaching that of the plasma as a limit. It appears that an increased permeability to phosphates may manifest itself even before the membrane becomes permeable to protein; when protein appears in the capsular fluid the phosphate content is always considerably higher than the normal.

THE KANSAS CITY ACADEMY OF
MEDICINE

Meeting of August 7, 1927

HEART CLINIC.—By DR. P. T. BOHAN.

CASE 1. GOITER HEART FOR AT LEAST
NINE YEARS.

Unmarried woman, 50 years old, first developed symptoms of goiter after an attack of tonsillitis in 1915. Three years later the superior thyroid artery was ligated without relief from dyspnea, irregular pulse and edema of the lower extremities. Incapacitated, since that time. Legs punctured because of edema; four gallons of fluid removed from abdomen.

Physical examination now reveals a fair state of nutrition, marked exophthalmos, tremor, enlargement of both lobes of thyroid gland, ascites and edema of the legs. Heart rate 155 with signs of auricular fibrillation, the apex half an inch lateral to the nipple line; soft systolic murmur.

Diagnosis, exophthalmic goiter and heart failure.

Digitalis used intermittently caused the heart rate to drop as low as fifty-four.

The inference is, heart failure secondary to a hyperthyroid state. The disturbance in rhythm, an auricular fibrillation, is the type of heart failure commonly found in connection with the hyperthyroid state. Auricular fibrillation constitutes approximately 90 per cent. of these arrhythmias, the others being auricular flutter, paroxysmal tachycardia, pulsus alternans and, rarely, heart block.

Probably toxemia and chronic fatigue are both concerned in goiter heart. Excessive thyroxin causes increased irritability of the heart muscle with extrasystole, later paroxysmal tachycardia, auricular flutter and finally fibrillation. This leads to fatigue, and dilatation and dropsy may occur with mere tachycardia in 5 per cent. of the cases. Goiter heart means functional impairment of some of the properties of the heart muscle. High grade anatomic changes are found in only 2 per cent. of the fatal cases.

Although Plummer condemns the use of digitalis

in the treatment of goiter heart we find it useful with fibrillation, and bradycardia is seldom as marked as when fibrillation is due to some other cause. It should not be given with normal rhythm nor to prevent postoperative fibrillation before the patient goes on the table. Quinidine is more suitable in the latter case.

CASE 2. HYPERTHYROIDISM AND PAROXYSMAL TACHYCARDIA.

Married woman, 48 years old, first noticed attacks of rapid heart nineteen years ago. One year ago began to lose weight, grew nervous and sweated. Developed a tremor and heart rate of 112. A lump in thyroid gland, present since the age of 22, began to enlarge. The metabolic rate was plus 26. There were signs of heart failure. The attacks of tachycardia now occur as frequently as four times a month, characteristically begin suddenly and end with a "thump." In the hospital an attack was found to last approximately four hours; pulse regular, 188 per minute. After a course of quinidine gr. vi to xii daily, Dr. Claude Hunt performed a thyroidectomy under general anesthesia. Five days later an attack of tachycardia occurred and lasted thirty-six hours, subsiding under the influence of quinidine gr. vi q. 4 hours. The quinidine had been discontinued by error immediately after the operation. There has been no recurrence after five weeks; the pulse 72, metabolic rate plus 6.

Possibly the adenoma of the thyroid of 20 years duration may have been responsible for attacks of extrasystole or tachycardia during that time without other signs of hyperthyroidism because of increased thyroxin.

CASE 3. CORONARY OCCLUSION DIFFERENTIATED FROM PERFORATED PEPTIC ULCER.

Banker, 62 years old, for ten years had attacks of epigastric pain two hours after eating; relieved by food and soda. Peptic ulcer was diagnosed. Six months ago there developed epigastric pain definitely related to exertion and relieved by rest. While walking one morning had an attack that did not stop and two hypodermic injections of morphine were given. Perforation in connection with peptic ulcer was suspected.

Two days later Dr. Boughnou made a diagnosis of coronary thrombosis on the basis of effort pain for 6 months and the attack of prolonged pain with severe shortness of breath, a drop in systolic pressure from 175 to 120, temperature of 100 degrees, and a leukocyte count of 14,500. The first electrocardiogram made two days after the attack was "negative," but the second, three days later, showed an inverted T wave in the first lead.

After four weeks in bed, on euphyllin 1 Gm. p. c., the patient has been able to resume light activities.

An interesting feature is that the diagnosis of myocardial infarction was made in spite of the first "negative" electrocardiogram.

CASE 4. CONGENITAL HEART DISEASE WITH SECONDARY POLYCYTHEMIA.

Since childhood this nineteen year old Jewish boy has been short-winded and cyanotic on exertion. He weighs 89 pounds. Cyanosis, cough and dyspnea have kept him out of school the past year.

Salient physical findings are drumstick deformity of the fingers, palpable liver, spleen two finger-breadths below the costal arch, enlarged right heart, thrill at the second left intercostal space, precordial systolic murmur most intense at the pulmonary cartilage. The second pulmonic is indistinct. Hemo-

globin 136 per cent., erythrocytes 14,500,000, leukocytes 9,000. The electrocardiogram shows right ventricular preponderance.

These findings at this age suggest pulmonary valve stenosis and patent foramen ovale or interventricular septum defect. Mixture of the two bloods might account for the cyanosis in congenital heart lesions, and the polycythemia may compensate for anoxemia and increase the respiratory capacity of the blood.

DISCUSSION

DR. I. J. WOLF: Paroxysmal tachycardia is a frequent occurrence in nontoxic goiters in old people. The most frequent cardiac irregularity is extrasystole. In a man, one looks for tobacco and whiskey as a cause; in women for goiter. In regard to coronary occlusion and cardiac infarct, I think the two signs of vast importance, mentioned by Libmann, of New York, are fever and leukocytosis. The fever sometimes is missing, the leukocytosis never; it is often as high as 20,000 and comes on six hours after occlusion; it may last several days.

In regard to the case of heart failure with gallstones, I think the gallbladder is the cause of the heart failure. Dr. Babcock, of Chicago, was one of the first men to see the influence of focal infection in the gallbladder on the heart.

DR. CLAUDE HUNT: I think of the two cases, the one of auricular fibrillation due to long thyroid intoxication could have been cured by operation years ago. The case of paroxysmal tachycardia is so far apparently cured. I think as much of the gland as possible should be removed in toxic goiter as a very small bit of the gland left may continue to produce toxic symptoms. The unsuccessful operations revert to the operator and are due to insufficient removal of gland.

BRAIN ABSCESS AS AN EAR COMPLICATION.—By DR. O. J. DIXON.

Case 1. Most of my cases are specimens; this is generally true of brain abscess. Lund, in a series of 54 cases of otitic brain abscesses, saved only ten.

My first patient is a man of 28 years old who six weeks ago said his head felt full. Ear washed out on four successive days; finally could not go to the doctor and was sent to the hospital, delirious.

In his spinal fluid were 1500 cells per cmm. and a mixed bacterial flora. Ear had been draining for twenty years. Following the lumbar puncture, pulse and temperature came down to practically normal but he was mentally dull. Another lumbar puncture revealed 150 cells but no growth. Mastoid opened and a large amount of pus poured out. I did a radical mastoidectomy exposing the dura, and suddenly pus burst forth and pieces of brain tissue floated out with it. The sigmoid sinus which was collapsed began to function and the patient has been improving ever since. My intention is to keep the fistula open.

This man had beginning walling off with pachymeningitis, a subdural abscess, and a brain abscess not walled off. I was doubtful about him since we found bacteria in the first puncture. It is well to remember that one-half of all brain abscesses arise from an ear, and one-half of these follow chronic ears. We must have a primary focus somewhere before an abscess of the brain can form.

Case 2. Marie T. came to the isolation hospital with measles. She developed a suppurating left ear and then a subperiosteal abscess from a frontal sinus. She became unconscious. I did a frontal sinus operation and drained the left frontal lobe abscess which was adjacent to the focus. The patient is now well.

Case 3. Goldie E., age 11, entered Mercy Hospital, February 28, 1927, and had a sinus infection. Brain abscess was diagnosed since she had a tendency to fall forward as she walked. Mastoiditis for six years without a discharging ear. Christmas, 1926, she had a sudden earache with a draining ear. The patient had gotten wet and had a hard chill at that time. She screamed with headache and was finally brought into the hospital unconscious with a profuse ear discharge.

On opening, I found a big abscess above the sigmoid near the posterior fossa. The patient had frontal headaches and became unconscious again. I operated again, went under the sigmoid and procured a teaspoonful of pus. When a brain abscess is opened the patient should get better on the table. This patient did not. I stuck a catheter into the cerebellum and thought she would die the next day but to my surprise I found her in good condition and eating everything that was brought her. Pus was boiling out of the catheter. She is now apparently well.

Case 4. McArnold is 29 years old. On the 28th of February, 1927, he had headache, fever, chills and 1080 cells but no organisms in his spinal fluid. His nose was stopped up. I opened up the left sphenoid, uncovered the dura and found some pus. Headache left him and cell count disappeared. Has been well ever since and gained 18 pounds. Apparently, opening the sphenoid and exposing the dura cured him.

DISCUSSION

DR. A. J. LORIE: To attack a brain abscess is a serious proposition and the mortality is quite high. More than 90 per cent. are secondary to chronic ear infection, all seemingly due to continuity and coalescence of infection with low virulence. The curing of acute brain abscess is rare. Brain abscess spreads rapidly and meningitis develops. In the chronic type the mortality amounts to about 86 per cent.

I think the change in the patient's disposition is a pathognomonic sign of brain abscess.

DR. J. L. MYERS: I wish to mention a case of my own similar to the first one presented by Dr. Dixon in which the dura was exposed, and to bring up the question of the resistance of the dura to infection.

DR. GILLILAND: Males seem to be more frequently affected with brain abscess than females. The right side is also more frequently involved and the chronic types are eight times more prevalent than the acute.

Generally, B. Coli infections are more serious than pneumococci or streptococci lesions.

It is interesting that the spinal fluid may sometimes become clear with the formation of an abscess.

DR. DIXON, closing: I believe Lund's work is the best I have seen on brain abscess. He carefully analyzed a large series of closely observed cases and his conclusions are well grounded.

Meeting of November 4, 1927

NEUROLOGICAL CLINIC.—By DR. G. WILSE ROBINSON.

I have four patients to show, two with brain stem lesions and two I am presenting as cases of multiple sclerosis.

Multiple sclerosis usually occurs between the ages of 20 and 40 but has been found in individuals as young as 10 and as old as 60. Three males are affected to two females and the disease represents approximately 2 per cent. of all cases of organic nervous disease. I believe cases have been overlooked and that it is really more common than ordinarily considered. Those afflicted live from 1 to 30 years, the average being 8 years. Those who do

skilled manual work are more frequently affected than brain workers or ordinary laborers. The disease is more common in northern parts of Europe and America than in southern parts.

It is not familial but does occur in families of a "neuropathic make-up." While it occasionally follows acute infections, it is no more common in children who have had the ordinary diseases of childhood than otherwise. The causative agent is presumably an infection or intoxication of unknown nature. There is really no connection between syphilis and multiple sclerosis, but the two diseases are not infrequently associated in the same individual. Trauma seems to be the direct or exciting cause in some cases of persons predisposed.

The symptoms are polymorphous and no one syndrome can be held essential. A combination indicating a multiplicity of central lesions, not definitely due to infection or injury, warrants a diagnosis. The commonest set of symptoms is Charcot's triad,—nystagmus, scanning speech and intention tremor, usually present in late stages. The onset is frequently insidious with transitory palsies and remissions.

Motor symptoms are often manifested by weakness and spasticity of the lower extremities and occasionally there are the signs of lower motor neuron lesions. Motor disturbances may be bulbar, cerebellar or hemiplegic, usually of an upper neuron type. Deep tendon reflexes are commonly increased and abdominal reflexes decreased.

Sensory disturbances may be "patchy" in character, or more definitely referred to the posterior cord columns. Subjectively there are numbness, pain and dysesthesia.

Symptoms referable to cranial nerve lesions are nystagmus, which is dependent upon motor dysfunction in the vestibulo-ocular system: diplopia, scotoma, and pallor of the temporal parts of the optic discs. With nystagmus there is frequently associated past-pointing. Temporal pallor of the optic discs is found in practically no other disease. Blindness is rare. Cranial nerve lesions are ordinarily nuclear. Only occasionally are they in the supranuclear internuclear connections.

Psychoses not infrequently develop. Euphoria occurs but usually is not as marked as in paretics. No definite evidence that the psychic state is in itself an etiologic factor of multiple sclerosis.

No definite sympathetic nervous lesions have been found to explain disturbances in bladder and rectum control.

The spinal fluid is not characteristic: sometimes a paretic curve is obtained.

Two theories are those of Hassen and Spillar. The process may be degenerative due to the action of an endotoxin or primarily inflammatory.

There is no specific treatment. Favorable results have followed the use of typhoid vaccine, intravenous arsenic and salicylates.

Presentation of Cases

This man is 36 years old. The interesting feature in this case of multiple sclerosis is that four other members of the family had the disease. The father, sister and two paternal aunts showed symptoms near the age of 30 with a single exception. The father and one aunt are now dead. The symptoms displayed in all these members of the family were decidedly characteristic. Note in this patient the demonstration of a positive Babinski on both sides and bilateral ankle clonus. As he walks, evidence of partial paraplegia is obvious. He has an ataxic gait and is spastic. The abdominal reflexes cannot be elicited and there is distinct bilateral pallor of the

temporal part of the optic discs. No other marked sensory disturbances. Does not complain of scotomata and has no severe visual disturbances.

DR. HAYS: Does the stiffness at the ankles ever disappear; does he ever relax?

DR. ROBINSON: No. Spasticity is the cause of the stiffness. The patient broke his ankle many years ago but this is not the cause of the stiffness at the ankles.

This case is unusual in that so many members of the family were affected.

The second case is this middle-aged man who has a typical Charcot's triad. Two years ago he began having spasmodic contractions of right arm that were characteristic of Jacksonian epilepsy. Has had ten such attacks since that time, the last one about two weeks ago. I saw him in two of these attacks and the symptoms were not characteristic of grand mal. He had a drawing pain referred to the right arm, starting at the tips of the index and second fingers. As the pain proceeded up his arm, and the arm drew up to the shoulder, there was a loss of consciousness which however was not deep. On one occasion the right leg drew up during an attack.

There have been many consultations in regard to this case and the condition has been repeatedly diagnosed brain tumor.

There is no ankle clonus or Babinski. A positive Babinski is elicited in about three-fourths of all cases of multiple sclerosis. The patient speaks slowly, a kind of "hyperarticulation." Spinal fluid findings were essentially negative. There is distinct pallor of the temporal sides of the optic discs.

The patient states that his first attack was the worst. Since then his headaches have gradually decreased and there is less vertigo and vomiting. If he had a brain tumor these symptoms should have become progressively worse.

The next man is 66 years old. Has had a ptosis of the left eyelid since September 15, six weeks ago. Came to the General Hospital because of diplopia, pain in the left eye, nausea and vomiting. Two days after the onset of his trouble he saw double and vision was not distinct. Dull ache at the left occiput which became intermittent. He claims to have had a chancre 40 years ago; Wassermann on blood and spinal fluid negative and no luetic colloidal gold curve. X-ray of head failed to reveal any abnormality.

This patient has a complete ophthalmoplegia. The third, fourth and sixth cranial nerves are involved. The left pupil is larger than the right. This lesion must be nuclear. The cause is questionable; possibly brain tumor, possibly syphilis, but there are no clinical manifestations of syphilis. I believe this is a case of encephalitis.

This last patient is a woman 33 years old. She lost the use of her left leg and suffered with dizziness for 3 months. She developed a backache which eventually radiated up to her head with severe occipital pain. The left leg trouble developed gradually, there being only weakness at first. Has lost the use of left eye.

Spinal fluid was under 8 mm. pressure and contained 280 cells per cmm. Wassermann four plus and excess globulin.

It is interesting to note that the right knee jerk is present and the left absent; the Achilles and abdominal reflexes are similarly elicited on the right but not on the left side. No ocular palsies. Right side of face is weak. The patient originally had lessened sensation at the left side of the face.

Now in both legs deep sensation as tested by the algometer is decreased but much more so on the left. Sensation to pricking is similarly lessened on

the left. The patient past-points to the left with both hands. There is no tremor. The plantar reflexes seem to be normal.

This patient, then, has multiple lesions. She can only distinguish light from dark with the left eye. For a while she sees a hand when held before her eye but this fades, probably because of fatigue of the optic nerve. The right side of the face is weak, hence the seventh nerve is involved. No fundus change, hence the lesion of the left eye must be central. No evidence of lower motor neuron lesion in left leg nor of peripheral nerve lesion.

I believe a lesion at the cerebello-pontine angle could account for most of this, possibly a gumma.

DISCUSSION

DR. HAYS: The first case was undoubtedly multiple sclerosis. Some believe that multiple sclerosis is always specific, but with laboratory tests it becomes more and more apparent that other things may cause nervous symptoms compatible with multiple sclerosis, hence these should not all be attributed to syphilis.

In the patient with Jacksonian epilepsy, a differential diagnosis in regard to brain tumor is interesting. There may be choked disc, headache and vomiting with Jacksonian epilepsy, but usually not absolute unconsciousness. If the patient does not lose consciousness then the condition is not true epilepsy. Some symptoms of brain tumor were lacking in this patient. This may be so in certain cases, and at autopsy brain tumors or cysts may be found. I recall a personal experience. A patient named "Rex" was an epileptic but had an excellent physique. At autopsy there was found a brain abscess as big as an egg so situated that it involved neither motor nor sensory areas.

In the case of the young girl, the condition is undoubtedly luetic. But again I wish to emphasize that not every such nervous disease is luetic.

DR. GIBSON: I saw the patient with Jacksonian epilepsy about a year ago and at that time thought of a localized lesion. Other symptoms of multiple sclerosis were then lacking. I wish to ask Dr. Robinson if the convulsions are related to the multiple sclerosis.

The case in which so many members of one family were affected was the most interesting of all because it is so unusual. Dr. Robinson, have you seen any of the other members of the family?

DR. ROBINSON: No.

DR. GIBSON: Is it possible that instead of a lesion of the brain stem in the man with ophthalmoplegia there may be a postorbital lesion?

DR. ROBINSON: If so, it hasn't affected his vision.

The case in which brain tumor was diagnosed is not progressive, has the multiple sclerosis triad, and is not major epilepsy because the loss of consciousness has been more apparent than real. There have been very few reported cases of Jacksonian epilepsy and multiple sclerosis combined. Patrick reported one and quoted one. I cannot diagnose brain tumor in this patient, and I can diagnose multiple sclerosis.

NON PARASITIC CYSTS OF THE LIVER.—By DR. T. G. ORR.

I shall report a case of nonparasitic cyst of the liver and then discuss the frequency of such conditions.

M. P., age 26, was admitted to the U. S. Veteran's Hospital July 21, 1926, complaining of nausea and vomiting which began the day before. Some discomfort in the abdomen but no severe pain; nausea and vomiting quite marked.

In the past history there was a diagnosis of pulmonary tuberculosis with two previous hospitalizations. He had noticed a gradually enlarging, painless, movable tumor in his abdomen for about two years and had been told that its removal would cause death.

On examination a mass was found in the umbilical region extending downward to the brim of the pelvis measuring about 10 by 12 cm. Mass slightly sensitive. Cecal region also sensitive but no muscle spasm or rigidity. Tumor could be moved laterally in each direction for a distance of 5 to 7 cm. Smooth in outline, quite firm. Temperature, pulse, urinalysis and blood count normal.

Soon after admission to hospital nausea and vomiting ceased and because of this improvement it seemed advisable not to operate at once. Two days later vomiting recurred and abdominal mass became more tender. Not considered very ill and operation postponed until the fifth day of his illness when it became obvious that exploration was necessary.

Operation. Left rectus incision made over the tumor. A dark colored mass presented with slightly adherent omentum and intestines at the sides. It was attached to the left lobe of the liver by a flat pedicle which was twisted to the right. Beneath pedicle found a slightly thickened gallbladder, somewhat elongated and drawn downward from normal position.

The mass was found to be a strangulated cystic tumor; was easily lifted into the wound. Flattened pedicle was transfixed and ligated and cyst removed. Appendix also removed and wound closed without drainage. Recovery prompt and uneventful.

The tissue was examined by Dr. H. R. Wahl, who reports as follows:

Gross pathology. Specimen consists of a large fluctuating cyst measuring about 15 cm. in diameter. Light can be partly transmitted. A rather flattened pedicle 3 by 1 cm. composed of dark red, friable tissue, apparently of hepatic origin. Pedicle is flattened out over surface of cyst and is rather prominent over an area of 4 by 5 cm. On section of cyst, contents consist of a mass of soft, light grayish, gelatinous material. Wall of cyst 2 to 3 mm. thick. Inner surface fairly smooth with a few ridges and a few slightly discolored plaques over lower end. The outer surface smooth and glistening and shows rather prominent vessels.

Histological pathology. Section shows a laminated wall composed of alternating layers of red blood cells and fibrous tissue containing many proliferating bile ducts embedded in a rather cellular stroma. Cyst wall lined with a thick wall of fibrous tissue on the inside of which is a layer of swollen cuboidal epithelial cells which resemble the cells lining the bile ducts. Within this layer there is some hemorrhagic eosin staining material containing a few nests of red blood cells. Lymphoid cells are scattered about the proliferating bile ducts. There is some liver tissue flattened out over the surface of the cyst showing marked pressure atrophy and consisting, as noted above, of proliferating bile ducts and fibrous tissue. Only here and there are a few nests of liver cells seen showing fatty degeneration. The wall of the cyst in some places shows deposits of calcium corresponding to the discolored plaques noted in the gross.

Diagnosis. Strangulated retention cyst of liver.

In 1923 J. F. X. Jones reviewed the literature and collected 61 cases, including his own, of nonparasitic cysts of the liver that had been subjected to operation. Since then Schraack has reported 6 cases not mentioned by Jones, Maes two cases, Alexander one case, Burns one case, Sims one case, and Metz two

cases making with ours 75 cases which have been operated upon. Jones quotes a letter from Dr. S. W. Harrington, of the Mayo Clinic, dated July 18, 1922, in which he states that 25 cases of multiple cysts of the liver had been observed at that clinic. Only three of these were found when the operation was done for tumor or cyst of the liver. The remaining 22 were discovered at operation for gallbladder disease, ulcer of the stomach and carcinoma of the stomach.

Jones has collected the opinions of several authors and has decided that nonparasitic cysts of the liver are best classified as, (1) teratomatous or embryomatous cysts; (2) pseudo-cysts; (3) lymphatic cysts; (4) cystic degeneration of the liver with cystic kidneys; (5) cysts which arise from blood vessels; (6) cystadenoma; (7) ciliated epithelial cysts; (8) retention cysts.

The determination of the etiology and proper classification in many cases is very difficult. Such cysts are, however, usually quite easily distinguished from the more common echinococcus cyst by the characteristic contents of the latter.

The clinical diagnosis of simple nonparasitic liver cyst is seldom made. If large enough to produce symptoms it is usually mistaken for gallbladder disease, ovarian cyst, pancreatic cyst, mesenteric cyst or echinococcus cyst. In our case, liver cyst was not suspected. We did not even determine that the tumor was cystic but suspected a solid tumor of the mesentery or gut or perhaps a floating spleen.

A retention cyst such as is here recorded is due to the engorgement and dilatation of a bile duct. Just why or how a duct becomes obstructed is not always easy to determine. Calculi and cicatrices have been mentioned as causes. Jones states that it is possible that an unrecognized irritation has caused swelling and hypersecretion in a bile duct, with occlusion of its outlet. Both the pedicle and wall of the cyst in our case showed marked fibrous changes. There was no gross evidence of any general cirrhotic changes in the liver above the pedicle.

The treatment of single nonparasitic cysts of the liver is total removal or marsupialization. In many cases they are so extensive and involve such a large portion of liver structure that removal is too dangerous. Good results have been reported after marsupialization and packing with gauze.

1. A pedunculated, strangulated nonparasitic cyst of the liver is here reported. It is probably the first recorded.

2. Solitary nonparasitic cysts are rare and usually not diagnosed as such.

3. If symptoms are present operation is indicated. Total excision and marsupialization are the operations of choice.

DISCUSSION

DR. WAHL: I have here half of the gross specimen. There is beginning calcification along the lower portion. This is probably congenital. Such cases are usually recognized by accident, such as in this case because torsion of its pedicle occurred.

Such cysts of the liver are not commonly as large as this. The ordinary type is usually no larger than a hazelnut or walnut. Very few in the literature are larger than this. The common type is multiple and is associated with congenital cystic kidneys. A solitary cyst usually arises from an obstructed bile duct.

There are two main types. One is associated with inflammatory changes in the liver, is small and occurs commonly in connection with atrophic cirrhosis. The other type is larger and represents congenital malformation of the bile ducts. They often

remain dormant for years and then for no explainable cause take on a relatively rapid growth. A duct is cut off from the main duct. Its contents become mucoid.

In this cyst the contents were almost colloid. The red color in this cyst is due to hemorrhages from torsion and strangulation.

The microscopical section seen with the lantern may have been misleading. The many cells present suggest inflammation but there was no inflammatory infiltration. The cells were red blood cells that photographed black.

The wall of the cyst was lined by cuboidal epithelial cells of the bile duct type. I believe that this was originally a cluster of cysts that coalesced and became multilocular.

Some cysts are lined by ciliated epithelium, others with squamous epithelium.

DR. ORR, in closing: This may have been a congenital cyst but it was not discovered by the patient until two years before it was removed. It probably gradually increased in size. The liver was examined for other cysts at the time of operation and none found.

BOONE COUNTY MEDICAL SOCIETY

The regular meeting of the Boone County Medical Society was held December 13, 1927. Dr. William R. Schaeffer, Columbia, presided in the absence of the president, Dr. Lloyd Simpson, Columbia. The minutes of the previous meeting were read and approved.

An invitation from the Pettis County Medical Society was read inviting the Society to attend their social and scientific meetings.

Dr. E. D. Baskett, Columbia, gave a report concerning the books presented to the Society by Mrs. Schwak and Mrs. J. E. Thornton.

A motion was made by Dr. Dudley A. Robnett, Columbia, that a bookcase be purchased. Seconded and carried.

It was suggested that other furniture be purchased for a new doctors' room at the Boone County Hospital.

Dr. M. P. Neal, Columbia, read a letter from Dr. R. R. Robinson, Santa Rita, New Mexico, formerly of Hallsville, Missouri, asking for a transfer to his local society.

It was moved by Dr. Neal that a transfer card be sent to Dr. Robinson with a letter from the Society. Seconded and carried.

A motion was made that the Society send flowers to Dr. Guy L. Noyes, Columbia, who is ill. Seconded and carried.

Dr. Frank G. Nifong, Columbia, brought up the matter of the State meeting to be held in Columbia, May 14-17, 1928.

On motion of Dr. Carl M. Sneed, Columbia, seconded and carried, Dr. Dudley A. Robnett, Columbia, was endorsed for chairman of the local committee on arrangements for the Annual Meeting of the Missouri State Medical Association.

The following officers were unanimously elected for the ensuing year: President, M. P. Neal, Columbia; vice president, E. D. Baskett, Columbia; secretary, H. P. Muir, Columbia; delegate to State meeting, R. S. Battersby, Columbia; alternate, W. P. Dysart, Columbia.

HUGH P. MUIR, M.D., Secretary.

BOONE COUNTY HOSPITAL STAFF

The meeting of the Boone County Hospital Staff held at Columbia, December 13, 1927, was

called to order by Dr. Frank G. Nifong, Columbia.

Dr. E. D. Baskett, Columbia, gave a report on the nomenclature to be used by the hospital.

It was moved by Dr. A. W. Kampschmidt, Columbia, that the nomenclature of the Massachusetts General Hospital, Boston, be accepted for use by the hospital and that three copies be obtained. Seconded and carried.

The terms "cured," "recovered," etc. were discussed. These terms will be further discussed at the next meeting.

A motion was made by Dr. A. W. Kampschmidt that the meeting of the staff be held on a different date from that of the Boone County Medical Society, the dates to be arranged by the executive committee. Seconded and carried.

It was moved by Dr. Dudley A. Robnett, Columbia, that the secretary send a questionnaire to each member of the staff as to which clinic service he prefers. Seconded and carried.

A motion was made by Dr. Carl M. Sneed, Columbia, that the clinic hour be changed to nine o'clock, effective January 1, 1928. Seconded and carried.

The following were elected to serve on the staff during the coming year: Chief of staff, Frank G. Nifong, Columbia; assistant chief of staff and secretary, S. D. Smith, Columbia.

Drs. Dudley A. Robnett, Carl M. Sneed and E. D. Baskett, Columbia, were appointed members of the executive committee.

HUGH P. MUIR, M.D.

CLAY COUNTY MEDICAL SOCIETY

The meeting of the Clay County Medical Society held in Liberty on the evening of December 22, 1927, was honored by a full attendance; the interest never was better. The Women's Auxiliary met conjointly. A standard Liberty dinner was first on the program, served by the popular "Jack-O-Lantern" Cafe. Forty men and women filled the artistically decorated table; a feast to be remembered.

After the reading of the secretary's reports the following officers were elected for 1928: President, S. R. McCracken, Excelsior Springs; vice president, W. L. Wysong, Liberty; secretary-treasurer, J. J. Gaines, Excelsior Springs, reelected; delegate to State meeting, W. H. Goodson, Liberty; alternate, F. H. Matthews, Liberty; censor (3 years), J. H. Rothwell, Liberty.

Dr. T. F. Neil and Dr. J. A. Howell, of the United States Government Hospital, Excelsior Springs, were cordially welcomed and elected to active membership. Both were honorary members. Mrs. Neil and Mrs. Howell joined the Women's Auxiliary.

Resolutions and declarations against quackery in Excelsior Springs were unanimously adopted and the secretary was instructed to proceed in the execution of his duties. The Society approved the efforts of our State Secretary and coworkers of the Jackson County Medical Society, the State Board of Health and our Attorney-General, and promised active support if such became necessary.

The scientific program was devoted to case reports, some twenty-five unusual experiences being related and discussed. All members participated and it was a very profitable meeting. Thus our Society welcomes its seventy-fourth year of existence—still a young giant!

J. J. GAINES, M.D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY

The meeting of the Clinton County Medical Society December 14, 1927, was called to order by the president, Dr. C. H. Risley, Cameron. The following members were present: Drs. A. O. Gilliland, V. B. Janes, M. L. Peters, L. A. Wilson and C. H. Risley, Cameron; R. W. Rea and P. M. Steckman, Plattsburg.

The applications of Dr. J. C. Bowman, Cameron, and Dr. E. B. Dunkeson, Lathrop, were read and referred to the board of censors. After consultation the board of censors reported favorably on the applicants and they were duly elected to membership by the unanimous vote of the Society.

A motion was made by Dr. R. W. Rea, seconded by Dr. P. M. Steckman, that Dr. J. T. Kimsey, Lathrop, be elected an honorary member of the Society. Carried.

The list of delinquent members was read. It was moved by Dr. R. W. Rea that they be notified of their delinquency. Seconded by Dr. M. L. Peters. Carried.

A motion was made that the newly elected members, Drs. J. C. Bowman and E. B. Dunkeson, be notified of their acceptance by the Society. Seconded and carried.

Officers elected for 1928 are: President, R. W. Rea, Plattsburg; vice president, A. O. Gilliland, Cameron; secretary-treasurer, P. M. Steckman, Plattsburg; board of censors, C. H. Risley, Cameron; V. B. Janes, Cameron; H. C. Starks, Gower; delegate to the State convention, R. W. Rea, Plattsburg; alternate, C. H. Risley, Cameron.
L. A. WILSON, M.D., Secretary.

GENTRY COUNTY MEDICAL SOCIETY

The Gentry County Medical Society and their wives with other doctors and their wives from Harrison and Worth Counties and other guests were delightfully entertained at a banquet given by Dr. and Mrs. G. W. Smith, Albany, at the New Albany Hotel, Friday evening, November 25, 1927. In the absence of the president, Dr. C. H. McCaslin, Stanberry, Dr. W. T. Martin, Albany, presided.

The guests of honor were Dr. Samuel H. Snider, Kansas City, and Dr. Elmer D. Twyman, Kansas City, representing the Committee on Postgraduate Courses of the Missouri State Medical Association.

Addresses were made by Dr. J. A. Crockett, Stanberry, district counselor; Mrs. W. S. Campbell, Albany, president of the Women's Auxiliary, and Mrs. W. T. Martin, Albany, Hygeia chairman of Gentry County.

Following the banquet the guests repaired to the auditorium of the public school building where a large number of citizens had already assembled to hear Dr. Samuel H. Snider talk on "Tuberculosis." Dr. Snider's talk was very interesting, stressing many excellent points relating to the diagnosis, treatment and prevention of the disease. His wide experience in diagnosing and treating tuberculosis enabled him to give much valuable information.

Dr. Elmer D. Twyman gave an illustrated lecture on "Cancer; Its Diagnosis, Treatment and Cure." He emphasized early treatment as the most helpful in curing this dreaded disease which is apparently on the increase. Dr. Twyman's experience in the treatment of cancer made his words all the more appreciated.

The discussion on these diseases affecting persons of different ages was of unusual interest and benefit to the listeners.

The meeting throughout was educational and in-

spirational, both to the lay audience and the physicians present. The audience was unstinted in its praise of Drs. Snider and Twyman.

The Hygeia display at the school building brought forth many complimentary remarks and many subscriptions for the health magazine were obtained. The posters furnished by the grades of the Albany school were attractive and full of useful information relative to health.

Those present at the banquet were: Dr. and Mrs. A. L. Wessling and Dr. W. J. Harned, Bethany; Dr. and Mrs. H. J. Patton and Mr. and Mrs. C. M. Rash, McFall; Dr. and Mrs. J. A. Crockett, Miss Susie Crockett, Dr. and Mrs. S. E. Simpson, Stanberry; Miss Childs, Columbia; Miss Lucy Crockett, Omaha; Drs. Samuel H. Snider and Elmer D. Twyman, Kansas City; Dr. and Mrs. J. N. Barger, Dr. and Mrs. W. S. Campbell, Dr. and Mrs. G. W. Whiteley, Dr. and Mrs. W. T. Martin, Miss Jean Louise Campbell, Miss Ina Whiteley, Rev. J. W. Mays, Mrs. Celest Smith and Mrs. Ella Patton, Albany; Mrs. Beatrice Stapleton, Lawrence, Kansas; Miss Virginia Larmer, Maryville.

Among those from out of town who attended the meeting at the school were: Dr. O. P. M. Mills, Dr. Fred Mull, Dr. Campbell, Dr. and Mrs. J. P. Ross and Mr. and Mrs. J. W. S. Dillon, Grant City; Dr. and Mrs. C. N. Williamson, Gentry.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the county court room, Clinton, Thursday evening, December 1, 1927, at 7:30 o'clock. The following members were present: Drs. F. M. Douglass, S. A. Poague, G. S. Walker, Edwin C. Peelor, R. D. Haire and S. W. Woltzen, Clinton; W. E. Baggerly, La Due. Visitors: Drs. Paul F. Stookey and Frank I. Ridge, Kansas City; R. J. Smith, Appleton City. Dr. Paul F. Stookey addressed the Society on "The Treatment of Syphilis."

A very interesting talk of "Goiter Heart" was given by Dr. Frank I. Ridge, President-Elect of the Missouri State Medical Association.

Dr. Leo S. Wright, Lowry City, and Dr. R. J. Smith, Appleton City, were elected to membership in the Society.

The Society extended a vote of thanks to Drs. Stookey and Ridge for their excellent papers.

The following officers were elected for 1928: President, J. W. Galbreath, Ulrich; vice president, J. J. Russell, Deepwater; secretary-treasurer, S. W. Woltzen, Clinton; delegate to State meeting, R. D. Haire, Clinton; alternate, W. E. Baggerly, La Due.
S. W. WOLTZEN, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The regular meeting of the Jasper County Medical Society was held December 20, 1927, at the Joplin Y. M. C. A. at eight p. m. Members present: Drs. J. W. Barson, L. C. Chenoweth, A. B. Clark, H. W. Dickerson, S. A. Grantham, A. M. Gregg, U. G. Hoshaw, E. D. James, R. M. James, H. A. Leaming, W. H. Mallory, S. H. Miller, R. E. Myers, R. L. Neff, J. L. Sims and R. A. Thornton, Joplin; W. R. Gaddie, Duenweg; E. D. Hatcher, Carthage. Visitor, Dr. G. Kaemmerling, Webb City. The minutes of the last meeting were read and approved.

A letter from Dr. L. W. Kibler, organizer of the postgraduate medical courses of the University of Oklahoma, was read relative to a course in internal medicine, the course to be given in June and July, 1928, by Dr. Clyde Brooks, of the University of

Alabama. The matter was tabled. President L. C. Chenoweth, Joplin, volunteered to communicate with Dr. Kibler regarding the matter.

A communication from the Joplin *Globe* relative to a Christmas greeting to the public at large from the medical profession was submitted. After some discussion a motion was made by Dr. A. B. Clark, Joplin, seconded by Dr. J. L. Sims, Joplin, that a vote be taken to ascertain the exact attitude of the members present. Carried. On taking the vote the ballot showed the majority were not in favor of this procedure.

It was moved by Dr. S. A. Grantham, Joplin, that a copy of the editorial of last Sunday's *Kansas City Star*, "Victory Over the Much Dreaded Disease, Yellow Fever," be submitted to the *Globe* for publication in the Christmas edition of the paper. Seconded by Dr. R. E. Myers, Joplin. Carried.

An application for membership from Dr. G. Kaemerling, Webb City, was read and referred to the board of censors for their consideration.

Dr. W. R. Gaddie, Duenweg, presented a specimen of twin monster, anacatadidymus. The children were united at the waist but presented four arms and four legs and two heads. A full report of the specimen will be published in the *State Association Journal*.

J. L. SIMS, M.D., Acting Secretary.

Meeting of January 3, 1928

The Society met in regular session January 3, 1928, at the Joplin Y. M. C. A. at eight p. m., with the following members present: Drs. O. L. Alberty, Carl Junction; J. W. Barson, L. C. Chenoweth, A. B. Clark, M. O. Coombs, M. B. Harutun, R. M. James, R. E. Myers and J. L. Sims, Joplin. The minutes of the previous meeting were read and approved.

A letter from Dr. E. J. Goodwin, Secretary of the State Association, under date of December 31, relative to the Revenue Act of 1928, was read. A motion was made that the Society go on record as favoring this matter. Seconded and carried.

The secretary, Dr. R. E. Myers, Joplin, was instructed to write Honorable Harry B. Hawes, Washington, D. C., advising him of the action of the Society.

A letter from Doctor Goodwin under date of December 20 was also read, informing us of the availability of men throughout the state for postgraduate instruction for the coming year. After some discussion a motion was made that the president, Dr. J. L. Sims, Joplin, appoint a committee of five to formulate plans for the above and submit them to Doctor Goodwin. Seconded and carried.

After a discussion it was decided to hold the next meeting of the Society at the Connor Hotel at 6:30 p. m., January 10, 1928. It was planned that after a dinner Dr. H. D. McGaughey, Joplin, would present his pictures of the gastro-intestinal tract, with special reference to gastric ulcer. Following this a social hour would be spent.

Dr. R. M. James, Joplin, reported a case of endocarditis following a septic sore throat.

Dr. M. B. Harutun, Joplin, reported a case of polycythemia with marked improvement following the removal of the individual's teeth.

President L. C. Chenoweth, Joplin, made a brief and pleasing address after which he tendered his place to Dr. J. L. Sims, Joplin, the recently elected president, who also gave a short address.

Dr. R. E. Myers, Joplin, the newly elected secretary, gave a few pleasing remarks and assumed his new duties. Dr. J. W. Barson, Joplin, also spoke and took his position as censor.

ROY E. MYERS, M.D., Secretary.

MERCER COUNTY MEDICAL SOCIETY

The Mercer County Medical Society entertained the Princeton Chamber of Commerce with a banquet November 28, 1927. Dr. G. M. Bristow, Princeton, acted as toastmaster.

Addresses on civic and health benefits to the city and community were made by Drs. C. J. Laws, J. M. Perry, and G. M. Bristow, Princeton; Dr. E. G. Prall, dentist.

Dr. N. A. Smith, formerly of Ravanna, Missouri, has taken up his residence at Lineville, Iowa, where he has resumed the practice of medicine.

Dues of all members have been paid for 1928 and the Mercer County Medical Society has taken its place on the Honor Roll.

J. M. PERRY, M.D., Secretary.

NEWTON COUNTY MEDICAL SOCIETY

The Newton County Medical Society held a meeting in Neosho on December 19, 1927. After the minutes were read and approved, Dr. H. L. Wilbur, Granby, reported a case for diagnosis and discussion. The consensus of opinion was that it was a syphilitic involvement of the nervous system. A Wassermann, if possible, and antilutic treatment were advised.

Dr. Wilbur also entertained the Society with an account of his trip to Paris, Belgium and London last September when he made the trip with the American Legion.

The following officers were elected for 1928: President, C. E. Maness, Neosho; first vice president, J. R. Reynolds, Neosho; second vice president, J. L. Edmondson, Stella; secretary-treasurer, J. A. Guthrie, Neosho; delegate to the State convention, R. L. Wills, Neosho; alternate, H. L. Wilbur, Granby; censors (three year term), H. L. Wilbur, Granby; (two year term), R. L. Wills, Neosho; (one year term), R. C. Lamson, Neosho.

The physicians present were: J. A. Guthrie, R. L. Wills, O. A. Sale, C. E. Maness, R. C. Lamson, D. E. Cullers, J. R. Reynolds, of Neosho; H. L. Wilbur, Granby; R. F. Cheatham, Diamond.

The next meeting will be held on January 16, 1928.

J. A. GUTHRIE, M.D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society met at Moberly on the evening of January 10, 1928, with the following members present: Drs. T. S. Fleming, F. L. McCormick, P. C. Davis, L. O. Nickell, S. T. Ragan, O. O. Ash, R. D. Streeter, G. O. Cuppidge, L. E. Huber, C. K. Dutton, and C. H. Dixon, Moberly; R. A. Woods, Clark; D. A. Barnhart and R. W. Epperly, Huntsville. Visitor, Dr. Blessinger, of Wabash Hospital, Moberly.

Dr. T. S. Fleming, Moberly, read a splendid paper on "Diseases of the Gallbladder."

A general discussion followed.

Officers elected for 1928 at the December meeting are: President, C. K. Dutton, Moberly; vice president, M. C. McMurtry, Paris; secretary-treasurer, C. H. Dixon, Moberly; delegate to State meeting, L. E. Huber, Moberly; alternate, G. O. Cuppidge, Moberly.

After the meeting the members enjoyed the usual luncheon at the local cafe.

C. H. DIXON, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society, with the Women's Auxiliary and the Charity Board of Fitz-

gibbon Memorial Hospital, met at luncheon in the dining room of the Ruff Hotel, Marshall, December 14, 1927. Sixteen members and five visitors were present.

After the routine business was disposed of the Charity Board made a report on the finances and their plans regarding the admission of charity patients to the Fitzgibbon Memorial Hospital.

A motion was made to appoint a committee to confer with the Charity Board and outline plans for the admission of charity patients to the hospital. Seconded and carried.

The chair appointed Drs. D. F. Manning, R. W. Kennedy and G. A. Aiken, Marshall, as members of the committee.

Inasmuch as there was a good deal of business to be attended to, Dr. William Harrison, Marshall, moved that the rules be suspended and that the present officers be reelected by acclamation for the ensuing year. Seconded and carried.

The President, Dr. F. A. Howard, Slater, reappointed all the members of boards and committees.

A motion was made that the committee appointed to confer with the Charity Board be advised to have three doctors sign each application for admittance to the hospital under the charity fund. Seconded and carried.

Dr. Paul F. Stookey, Kansas City, read a most interesting paper on "Scarlet Fever, Erysipelas and Streptococcic Infections."

Dr. Frank I. Ridge, Kansas City, President-Elect of the Missouri State Medical Association, made a talk on "Diagnosis and Treatment of Gastric and Duodenal Ulcers."

On motion, seconded and carried, the Society extended a vote of thanks to Drs. Ridge and Stookey for their attendance and their most interesting papers.

Meeting of January 11, 1928

The Society met with the Women's Auxiliary at luncheon at the New Virginia Hotel, Marshall, Wednesday, January 11, 1928. Twelve members were present.

After the transaction of routine business, the committee appointed to formulate plans for the use of the charity fund raised in Saline County for the care of indigent patients at the Fitzgibbon Memorial Hospital, in conjunction with the members of the board of laymen having charge of this fund, submitted the following rules for the approval of the Society:

1. That the Saline County Medical Society appoint three of their members living in Marshall to investigate every case entering the hospital and using this fund as to the necessity of hospitalization.
2. That physicians having a case using this charity fund as a loan in the care of their hospital charges may make tentative charges to the patient, but those cases using the charity fund as strictly charity patients shall have medical and surgical services free.
3. Each physician having a charity case using this charity fund may take care of his own case.
4. That each physician shall be held financially responsible to the hospital board for the bill of a patient until the patient shall have been passed upon by the committee of doctors appointed for that purpose.

A motion was made that the above rules as a whole be adopted. Seconded and carried.

It was moved that the committee of three doctors be appointed by the President, Dr. F. A. Howard, Slater.

President Howard appointed Drs. D. F. Manning, G. A. Aiken and R. W. Kennedy, Marshall, as members of the committee.

A letter from Dr. E. J. Goodwin, Secretary of the State Association, regarding the appointment of a member from the Society on the Auxiliary Committee on Public Policy, was read.

On motion, seconded and carried, the President,

Dr. F. A. Howard, was appointed a member of the committee.

A very interesting paper was read by Dr. D. F. Manning, Marshall, registrar for this district on vital statistics, special attention being directed to the diagnosis and cause of death given on the death certificates in this district.

Considerable discussion along these lines followed.

H. R. CONWAY, M.D., Secretary.

SOUTHWEST MISSOURI MEDICAL SOCIETY

The fall meeting of the Southwest Missouri Medical Society was held at the Kentwood Arms Hotel, Springfield, Thursday and Friday, November 10 and 11, 1927. The meeting convened at 10 a. m. with the president, Dr. W. A. Delzell, Springfield, in the chair. The minutes of the last meeting having been published in the *Springfield Clinical Bulletin* were approved without reading. After receiving the reports of committees the regular program was opened with the president's address.

Dr. Delzell, speaking briefly, pointed to the excellent character of the scientific papers and addresses on the program for this meeting, and commented on the benefits to be derived by the membership from a full attendance, stressing particularly the obligations for a full attendance by the members residing in Springfield.

Dr. J. W. Becker, St. Louis, executive secretary of the Missouri Tuberculosis Association, addressed the Society on "A National Campaign for the Early Diagnosis of Tuberculosis."

Dr. James Stewart, Jefferson City, health commissioner of Missouri, read a paper on "Highway Sanitation Problems and Program."

Dr. Frank B. Fuson, Nevada, health supervisor of Missouri, presented a paper on "Mental Disease."

The afternoon session of the first day was given entirely to addresses by distinguished guests from St. Louis and Kansas City visiting the meeting under the auspices of the Postgraduate Course of the Missouri State Medical Association. The subjects discussed were:

"Duodenal Stagnation as a Cause of Ulcer," illustrated with lantern slides, by Dr. Leith H. Slocumb, St. Louis.

"Diagnosis of Gonorrhea by Culture Methods," illustrated with lantern slides, by Dr. R. B. H. Gradwohl, St. Louis.

"Infections of the Upper Respiratory Tract," by Dr. O. S. Gilliland, Kansas City.

A banquet was held in the main dining room of the Kentwood Arms Hotel, Thursday evening, November 10, with about one hundred members and guests in attendance.

Dr. H. L. Kerr, Crane, Vice President of the State Board of Health, acting as toastmaster, introduced the speakers of the evening, Dr. Frank G. Nifong, Columbia, President of the Missouri State Medical Association; Dr. E. J. Goodwin, St. Louis, Secretary of the State Medical Association; Dr. Emmett P. North, St. Louis.

The principal address was delivered by Dr. Frank G. Nifong, Columbia, President of the Missouri State Medical Association, who discussed the subject of "Problems of Rural Medical Service."

Dr. E. J. Goodwin, St. Louis, Secretary of the State Medical Association, and Dr. Emmett P. North, St. Louis, also spoke.

The forenoon of Friday, November 11, was devoted to the reading of the following papers:

"Dietetic Treatment of Pernicious Anemia," with report of cases, by Dr. Guy D. Callaway, Springfield.

"Immunization and Treatment of Tuberculosis by Culture of Living Tubercle Bacilli," by Dr. William Rienhoff, Springfield.

"Differential Diagnosis of Renal Calculus and Gallstone," by Dr. Robert Glynn, Springfield.

"Some Atypical Mastoid Conditions," by Dr. J. P. McCann, Springfield.

At the conclusion of the scientific program, election of officers was held. The following were elected for the ensuing year: President, J. H. Wade, Ozark; first vice president, Wilbur Smith, Springfield; second vice president, Arthur D. Knabb, Springfield; recording secretary, W. R. Beatie, Springfield, re-elected; treasurer, Lee Cox, Springfield; corresponding secretary, Joseph W. Love, Springfield.

Jos. W. LOVE, M.D., Corresponding Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular monthly meeting of the St. Louis County Medical Society was called to order by the president, Dr. H. N. Corley, Webster Groves, at 3 p. m. Wednesday, November 9, 1927, in the directors' room of the Webster Groves Trust Company. Members present: Drs. Wm. F. O'Malley, H. N. Corley, Frank P. Gaunt, Horine Miles and Carl C. Irick, Webster Groves; Otto N. Schudde, Ferguson; Garnett Jones, St. Louis; D. Henry Hanson and J. H. Armstrong, Kirkwood; Frank Knabb, Valley Park; Leander W. Cape and E. E. Tremain, Maplewood; James B. Sudduth, Clayton. Visitor, Dr. John R. Lionberger, St. Louis.

Dr. J. H. Armstrong, Kirkwood, gave a report on the meeting with the county court. It was agreed that the county court appoint a hospital committee of five to work with the county court to supervise the county hospital.

The entertainment committee announced that arrangements had been made for the annual banquet of the Society to be held at Van Horn's Farm in St. Louis county.

The scientific program was given by Dr. John R. Lionberger, St. Louis. Dr. Lionberger demonstrated the methods and technic in the preparation of sera, antitoxins and immune bodies, illustrating the methods by moving pictures. He emphasized the fact that sera products from horses should not be given indiscriminately but the history of the patient should be gone into and care exercised in the administration of the sera to guard against anaphylaxis.

Meeting of December 14, 1927

The annual banquet for members of the Society and their wives was held December 14, 1927, at Van Horn's Farm in St. Louis county. Members present: Drs. J. H. Armstrong, Kirkwood; H. N. Corley, C. P. Dyer, Armin C. Hofsommer, Frank Gaunt and Carl C. Irick, Webster Groves; Frank Knabb, Valley Park; E. C. Breckenridge, W. H. Townsend and Pierre M. Brossard, Maplewood; Garnett Jones, Otto W. Koch and J. D. Thurman, St. Louis; John O'Connell, Overland. There were twenty visitors present.

The entertainment committee had made elaborate detailed preparations for a real banquet. The tables were decorated with flowers. Special favors consisted of fancy headdresses and noise makers for a carnival time. An orchestra furnished music for dancing.

After the coffee and cigars the members retired for a business session to elect officers for the ensuing year. The following were elected: President, Frank Knabb, Valley Park; vice president, H. A. Goodrich, Webster Groves; secretary-treasurer, E. E. Tremain, Maplewood; censor, J. H. Armstrong, Kirkwood. CARL C. IRICK, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met December 15, 1927, in the office of Dr. J. A. Fuson, Mansfield. The meeting was called to order by the president, Dr. R. M. Norman, Ava. Members present: Drs. J. D. Ferguson and R. M. Norman, Ava; J. A. Fuson, Mansfield; R. A. Ryan, Mountain Grove.

In the absence of the secretary, Dr. A. C. Ames, Mountain Grove, Dr. R. A. Ryan was appointed secretary pro tem.

Dr. J. A. Fuson, Mansfield, reported a case of scarlet fever complicated by double otitis media, suppurating cervical adenitis and mastoiditis. The case was freely discussed by all present.

A case of Colles' fracture was presented by Dr. R. M. Norman, Ava. After examination of the fracture and an active discussion Dr. Norman reduced the fracture and put it in splints.

The following officers were elected for the year 1928: President, L. T. Van Noy, Norwood; vice president, J. D. Ferguson, Ava; secretary-treasurer, A. C. Ames, Mountain Grove.

R. A. RYAN, M.D., Secretary pro tem.

WOMEN'S AUXILIARY

OFFICERS 1927-1928

President, Mrs. William M. Bickford, Marshall. President-Elect, Mrs. Willard Bartlett, St. Louis.

1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. W. T. Martin, Albany.

3rd Vice President, Mrs. T. O. Klinger, Springfield.

4th Vice President, Mrs. M. P. Ravenel, Columbia.

Corresponding Secretary, Mrs. L. S. James, Blackburn.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. T. J. Draper, Warrensburg.

Directors (2 years): Mrs. A. B. McGlothlan, St. Joseph; Mrs. D. S. Long, Harrisonville; Mrs. George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University City; Mrs. C. T. Ryland, Lexington (1 year); Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

GROUPS TO STIMULATE ORGANIZATIONS

Feeling that the counties in which the Women's Auxiliary has not been organized need the stimulus of personal contact with Auxiliary women, the following plan for furthering the organization has been adopted for 1928. Each organized county has been assigned responsibility for the unorganized counties nearest to it. The following is the list of assignments which have been grouped in four divisions, each under the general charge of a vice president of the Auxiliary:

Mrs. A. W. McAlester, Kansas City, First Vice President. Counties: Carroll, Chariton, Howard, Jasper, Linn, Livingston, Randolph, Ray.

Mrs. W. T. Martin, Albany, Second Vice President. Counties: Grundy, Harrison, Nodaway, Shelby, DeKalb, Daviess.

Mrs. T. O. Klinger, Springfield, Third Vice President. Counties: Barry, Lawrence, Newton, Webster, Wright-Douglas.

Mrs. M. P. Ravenel, Columbia, Fourth Vice President. Counties: Callaway, Macon, Marion, Moniteau, Monroe.

COMMENT ON THE ACTIVITIES AT WASHINGTON SESSION OF A.M.A.

Rather than a formal report may I give you the outstanding impressions that came to me in Washington as one who had been prevented from attending the annual meetings of The Woman's Auxiliary to the American Medical Association, for the past two years, while having been present at three previous meetings, the first of which took place in St. Louis in May, 1922.

First of all the crowds of women at the meetings, and second the general interest in the Auxiliary that was manifested on all sides both by men and women. It is doubtless partly because of its youth that the meetings of the Woman's Auxiliary are marked by enthusiasm and stimulating interest.

Washington naturally offers more places of interest for the visitor than any other city and the local committee were wise in affording us the opportunity of seeing the national sites and having our gatherings at places of interest. All of this has been published therefore I will confine myself to the program of the Auxiliary.

Each year the A.M.A. shifts its meeting place to a different section of the country and a new group of women catch the Auxiliary idea, for the idea is better caught than taught.

Dr. Wendell C. Phillips, New York, the retiring President of the A.M.A., has been a staunch believer in the Auxiliary and its possibilities and has given effective assistance to its organization.

Thirty states are now organized with about seven thousand paid up members. At the annual meeting held in the building of the American Red Cross over five hundred women were present, each having paid a registration fee of \$1.00. In the future this fee will be eliminated. It was found necessary this year because of the expense of publishing the quarterly *Bulletin* which is to go to all Auxiliary members who have paid their dues. We hope every Missouri woman is receiving it; if not, please notify your local and state treasurer.

The Michigan State Medical Association engaged Dr. Caroline B. Crane as an organizer for their Auxiliaries and sent her to Washington as a representative at our meetings. This is of course an ideal arrangement and we hope other states will follow Michigan's example.

A very interesting ceremony took place at Mt. Vernon when the outgoing President of the A.M.A., Dr. Phillips, placed a wreath on the tomb of George Washington, and the President of the Auxiliary, Mrs. F. P. Gengenbach, placed one upon the grave of Martha Washington.

An invitation was sent from the House of Delegates to the National Board of the Auxiliary to be present at a session and Mrs. McReynolds was invited to address them. She was received with enthusiasm and your National Board was proud to be represented by this lovely, gracious woman.

A motion was made in the House of Delegates requesting the Board of Trustees to appoint an advisory committee for the Woman's Auxiliary. The Board appointed a committee of fifteen outstanding Fellows of the A.M.A. with Dr. Hubert Work, Secretary of the Interior, Chairman. The Auxiliary was addressed at its opening meet-

ing in the Red Cross Building by the retiring President, Dr. Wendell C. Phillips, and Dr. Hugh S. Cumming, head of the United States Public Health Service. Both expressed their belief in what the Auxiliary could do in a definite way in backing up health work and helping to create public sentiment. Dr. Phillips referred to the Auxiliary as a great moral force. Dr. Cumming's particular request was that in states not yet in the birth registration area the Woman's Auxiliary make every effort to bring them in. Following these two speakers the incoming President of the American Medical Association, Dr. Jabez N. Jackson, of Missouri, addressed the Auxiliary. He stressed particularly on the contribution the Auxiliary has to make through bringing a new emphasis to the value of acquaintanceship and friendship among the members of the profession and the opportunities for these contacts that only women can provide.

The Advisory Committee will outline one program for each unit to place before women's organizations. This will not interfere with local problems in which the Auxiliary may be interested.

The national organization is to be regarded as a clearing house for the exchange of ideas in our common field though it also makes definite recognition as to the work. As to reports from various states we found Missouri still leading though by a narrow margin in the number of subscriptions to *Hygeia*. We all know that this is largely due to the work of our own Mrs. McGlothlan, who is the Chairman of *Hygeia* on the National Board. A \$100 prize has been offered this year by Mrs. McReynolds to the Auxiliary getting the most subscriptions. The Texas women have in some places succeeded in getting the news dealers to carry *Hygeia* on the stands by constant inquiry for it. They also have adopted the idea of sending it as a welcome gift to prospective mothers. The Kentucky women offered as their contribution The Woman's Auxiliary number of the Kentucky Medical Journal. Aside from getting material to fill the issue they realized considerable money from advertisements which they had solicited.

The question of financing the quarterly *Bulletin* was considered at the Executive Board meeting and Missouri's suggestion that a finance committee be appointed to raise the necessary funds was adopted. It was deemed inadvisable to charge a registration fee or to raise the dues at this time. Missouri's recommendation that a membership campaign, with the slogan "Every Member Get a Member," be carried on in every state during October, was also adopted. All the states reported educational progress along various lines. The following officers were elected:

President, Mrs. John O. McReynolds, Dallas, Texas; President-Elect, Mrs. Allen H. Bunce, Atlanta, Georgia; First Vice President, Mrs. George H. Hoxie, Kansas City, Missouri; Second Vice President, Mrs. Thomas A. Groover, Washington, D. C.; Third Vice President, Mrs. F. A. Long, Madison, Nebraska; Fourth Vice President, Mrs. David W. Parker, Manchester, New Hampshire; Parliamentarian, Mrs. Willard Bartlett, St. Louis, Missouri; Secretary, Mrs. Evarts V. DePew, San Antonio, Texas; Treasurer, Mrs. Irvin Abell, Louisville, Kentucky. Directors: Mrs. F. P. Gengenbach, Denver, Colorado; Mrs. J. T. Christison, St. Paul, Minnesota; Mrs. William E. Parke, Philadelphia, Pa. Directors one year: Mrs. S. C. Red, Houston, Texas; Mrs.

Seale Harris, Birmingham, Alabama; Mrs. C. W. Garrison, Little Rock, Arkansas.

We, of Missouri, are gratified to see this honor conferred upon Mrs. George H. Hoxie who did such valuable work as our first president and has since served as chairman of education on the national board. Much of the business of the Auxiliary was transacted in the daily meetings of the Executive Board which were held at the Mayfair Hall and were adjourned only for the larger gatherings. The Board lunched together as guests of local hostesses each day.

One of the most beautiful social events was the reception given by The Woman's Auxiliary, of Washington, to the visiting Auxiliary in the Continental Hall, the home of the D. A. R., in honor of the wives of the Presidents of the A.M.A. and the President of the Auxiliary. Here we were welcomed by Mrs. Boisseau, President General of the D. A. R., and Mrs. Maurice Richardson, who welcomed us as the wife of a trustee of the A.M.A., and ex-state regent of the D. A. R., a member of the Woman's Auxiliary. Through Mrs. Richardson's generosity we enjoyed a fascinating song recital by a rare artist, a singer of Scotch songs, Mr. Baldwin Allen, who in his Highland bonnet and kilt gave a delightful half hour entertainment.

In looking back upon the meeting it is gratifying to note the constant growth of the Auxiliary in numbers as well as the general recognition of the fact that it is working with authority and dignity and that it is an added moral force within the American Medical Association.

MRS. WILLARD BARTLETT.

BOONE COUNTY AUXILIARY

At their September meeting the Women's Auxiliary to the Boone County Medical Society had as their guests the ladies of the Cole County Auxiliary. Mrs. W. M. Bickford, Marshall, President of the State Women's Auxiliary, and Mrs. R. Paul Crank, Marshall, were also honor guests at the meeting which was held at the home of Mrs. M. P. Ravenel, Columbia.

Mrs. W. M. Bickford made an interesting talk on plans for the coming year's work. Arrangements for the next annual meeting were also discussed.

At the close of the meeting delicious refreshments were served by the hostess.

GENTRY COUNTY AUXILIARY

Dr. and Mrs. G. W. Whiteley, Albany, delightfully entertained the Gentry County Medical Society and the Auxiliary at their home, Thursday, September 22.

The speakers were Dr. and Mrs. Allen C. Hutchison who recently returned from China. They barely escaped with their lives on account of the present revolution. With regret they leave the mission field after eighteen years in service to take up their home again in America. Dr. Hutchison was chief surgeon of a 175-bed hospital in Nanking. He talked very interestingly of the practice of medicine and surgery among the Chinese. He has had a wide experience in all kinds of diseases and surgery. His speech showed the ignorance and superstition of the Chinese in the treatment of diseases and he told of Chinese customs which interfered greatly with the progress of scientific medicine. He showed also how scientific medicine may be of great benefit to the Chinese. Sincerity of purpose and

scientific attainments were prominently revealed in Dr. Hutchison's address.

Mrs. Hutchison began her talk by saying how delighted she was on returning to America to find an organization of doctors' wives, the Auxiliary. She said that each month a joint meeting of the medical staff and their wives was held in the hospital in China, with much profit and pleasure. In this she thought they were ahead of America. She thinks the Auxiliary has a wide range of usefulness and her enthusiasm will help the Auxiliary grow in strength.

Dr. and Mrs. Boyd Smith were also our guests. They have just returned from a two years' stay in the Philippine Islands. Their talks were of great interest on the manners and customs among the Filipinos and the practice of dentistry among them.

The Hygeia chairman reported 92 five months subscriptions to the health magazine, Hygeia; 91 copies to the public schools of Gentry county, the gift of the Auxiliary and the Tuberculosis societies.

Other guests greatly added to the social hour. Delicious refreshments were enjoyed by all. The meeting adjourned with praise to our host and hostess and daughter, Miss Ina.

MRS. W. T. MARTIN, Press Chairman.

GREENE COUNTY AUXILIARY

Greene County has an active auxiliary of about thirty members. The officers are: President, Mrs. E. M. Fessenden, Springfield; vice president, Mrs. T. O. Klingner, Springfield; secretary-treasurer, Mrs. W. C. Check, Springfield.

This Auxiliary has the honor of being the only one in the state to have issued a year book.

NOTES

The auxiliaries of Cass and Cole counties are giving bridge parties the proceeds to go toward placing Hygeia in the rural schools.

The Buchanan County Auxiliary is planning to have health talks published in the daily news column of the city papers. They have placed Hygeia in the reading rooms of Union Station at St. Joseph.

The Jackson County Auxiliary now has a page in the Jackson County Medical Society *Bulletin*. These ladies are to be especially commended in that they are supporting the state program so splendidly.

Mrs. W. T. Martin, Albany, of the Gentry County Auxiliary, went to Gallatin on July 6 and organized the Daviess County Women's Auxiliary.

Worth County has no medical society at present but it is hoped the splendid people of that county may soon be induced to organize.

Miss Ferguson, of Daviess County Auxiliary, has persuaded the local Tuberculosis Society to give Hygeia as prizes to schools selling tuberculosis stamps.

Dr. Blanche E. C. Hopkins, Jefferson City, with nine other members of the Cole County Auxiliary, met with the Boone County Auxiliary at Columbia in September. The meeting was held in the home of Mrs. M. P. Ravenel. Mrs. W. M. Bickford, Marshall, State President, talked on what other county auxiliaries are doing and on ways and means. The teachers of Cole county are much interested in Hygeia and the Cole County Auxiliary is planning to place Hygeia in a number of the county schools.

BOOK REVIEWS

DISEASES OF THE SKIN. By Henry H. Hazen, A.M., M.D., Professor of Dermatology in the Medical Department of Georgetown University; etc. Third edition. Two hundred forty-eight illustrations, including two color plates. St. Louis. The C. V. Mosby Company. 1927. Price \$10.00.

This popular treatise on dermatology for students and general practitioners is now in its third edition. The subject matter is printed on good paper and many of the illustrations are excellent. Dr. Hazen being an expert in negro dermatology, many references are found in his book on diseases as they occur in that race. Seven pages are allotted to a diagnostic outline which should be very valuable to the student. The chapter on hygiene, which is usually omitted from most textbooks, contains much valuable advice. The subject of dermatophytosis, a disease which now comprises a large percentage of the dermatologist's practice, is well handled and illustrated with good photographs. The author has omitted the chapter on eczema in this edition, and had classified the various entities comprising this group under different headings. As the author rightly states, "The expression 'eczema' means nothing. Practically all cases of eczema in the adult are examples of dermatophytosis, anaphylactic dermatitis, or dermatitis venanata." The subject of syphilis is well presented, the author including several pages dealing with public health measures for the control of this important disease.

The book is a useful addition to dermatological literature and should be of value to the student as well as the general practitioner. N. T.

LENK'S INDEX AND HANDBOOK OF X-RAY THERAPY. By Dr. Robert Lenk, Privat-Dozent of Med. Roentgenology, University of Iowa. With a foreword by Professor Holzknecht. Translated by T. I. Candy, M.B., B.Ch., D.M.R.E. Hon. Radiologist, Royal Givert Hospital. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$2.25.

This little book, as the title indicates, is intended for the general practitioner who does not have time to wade through textbooks or monographs on X-ray therapy. It is intended to acquaint the general practitioner and student in concise terms with the possibilities and limitations of X-ray therapy.

The book is divided into two parts. Part one deals with (1) mode of action of X-rays; (2) prognosis; (3) accompanying and subsequent effects of the treatment, including early reactions, locally and generally, and principal reactions; (4) adjuvant treatment; (5) contraindications and lastly treatment formulae.

Part two deals with the diseases amenable to X-ray therapy. The diseases are arranged alphabetically to facilitate reference to any particular disease and to enable the reader to learn all he wants to know more quickly than would be possible in a systematic treatise.

The book does not aim at instructing either the general practitioner or the specialist in the technic of X-ray therapy but is a useful manual of general information. Treatment formulae given are those used at Vienna school.

W. K. M.

DISEASES OF THE DIGESTIVE ORGANS. With Special Reference to Their Diagnosis and Treatment. By Charles D. Aaron, Sc.D., M.D., F.A.C.P. Professor of Gastro-Enterology and Dietetics in the Detroit College of Medicine and Surgery, etc. Fourth edition, thoroughly revised. Illustrated with 174 engravings, 70 roentgenograms and 13 colored plates. Lea & Febiger. Philadelphia. 1927. Price \$11.00.

This volume is not only clear and readable but is written in a style that is thorough and systematic. The chapters for the most part are so complete that the book as a whole is made very practical, especially to the modern general practitioner. Diagnosis and treatment are up to the minute. The illustrations are good and well placed. This book gives the physician a sense of security when on his desk and creates a sense of loneliness when missing. W. A. C.

SURGICAL DISEASES OF THE GALL-BLADDER, LIVER AND THEIR TREATMENT. By Moses Behrend, A.M., M.D., F.A.C.S., Attending Surgeon to the Jewish and Mt. Sinai and Northern Liberties Hospital; Consulting Surgeon to the Hebrew Orphans Home, the Jewish Maternity Hospital, and Jewish Seaside Home, Atlantic City, etc. With Numerous Illustrations, Some in Colors, Including Many Full Page Plates. Philadelphia. F. A. Davis Company, Publishers. 1927. Price \$4.00.

This volume, in large, bold type, on excellent paper, is presented in a most pleasing and original style by an author who seems to be well versed in his subject. The original work and splendid drawings of the various anatomical anomalies of the ducts and vessels add immeasurably to the value of the book. Special chapters by authoritative men on the anatomy, physiology, pathology and medical preoperative and postoperative treatment of the biliary system make the book indispensable for both the surgeon and the internist. A paragraph on the ligation of the hepatic artery in animals, together with the special chapter on the surgical treatment of gallbladder diseases, with special reference to empyema of the gallbladder, is well worth the price of the book.

The reviewer recommends very highly this excellent original volume. A. C. C.

BLOOD-PRESSURE. Its Clinical Applications. By George William Norris, A.B., M.D., Professor of Clinical Medicine in the University of Pennsylvania, etc., Henry Cuthbert Bazett, M.B., B.Ch. (Oxon.), F.R.C.S. (Eng.), Professor of Physiology in the University of Pennsylvania, and Thomas M. McMillan, A.B., M.D., Assistant Physician to the Pennsylvania Hospital, etc. Fourth edition, thoroughly revised. Illustrated with 47 engravings and 1 colored plate. Lea & Febiger. Philadelphia. 1927. Price \$4.50.

The popularity of this book is shown by the fact that within a relatively short time it has reached its fourth edition. This edition shows considerable revision and the chapters on physiology have been rewritten. The present volume can be highly recommended to anyone desiring a complete and up-to-date work on the fundamental aspects of blood pressure and its clinical interpretation and adaptation. R. L. T.

TREATMENT OF VENEREAL DISEASE IN GENERAL PRACTICE. By E. T. Burke, D.S.O., M.B., Ch.B. (Glas.) Editor, Syphilis Section, "British Journal of Venereal Diseases"; etc. Oxford University Press. American Branch. 35 West 32nd Street, New York City, N. Y. 1927. Price \$1.75.

Though small, this work is a sufficiently complete treatise on the treatment of gonorrhea and syphilis by the latest methods for the general practitioner. Having been written for the English practitioner, the drugs used are unfamiliar to the venereologists of this country.

Stabilarsen, a chemical compound of 606 with medicinal glucose, is his preferred arsenical. Binostab, finely divided metallic bismuth in 5 per cent. glucose solution, is the routine bismuth preparation used.

The author has practically discarded mercury in favor of bismuth in the treatment of syphilis. He claims persistently negative Wassermann blood tests from the use of bismuth alone in cases intolerant of the arsenicals. The iodides are employed only in the later stages, as is customary with us.

Against the usual practice in this country at the present time, the author employs irrigations of potassium permanganate in acute cases of gonorrheal urethritis, with instillations of iodargol. Later oxycyanide of mercury or silver nitrate solutions are used for irrigation. Vaccine is used routinely in his practice. We cannot agree with his routine for acute gonorrhea of the anterior urethra as being free from danger.

The book is written in an easy, colloquial style and is very good reading.

Some of the author's dicta are aptly put:

"The one safe way of treating a soft sore is by calling it syphilis."

"The Wassermann test must be kept in its place. It is a good servant—otherwise a 'tyrannical master.'"

"The protection of the central nervous system must ever be present in one's mind when dealing with syphilis. What shall it profit a man if his skin be without blemish but who feels as if he walks on cotton wool and believes himself to be a member of the Trinity?" F. M. D.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. By Robert Bing, Professor in the University of Basle. Translated from the Sixth German Edition by F. S. Arnold, B.A., M.B., B.Ch. (Oxon.) Third edition. Revised and enlarged. With one hundred and two illustrations. St. Louis. C. V. Mosby Company. 1927. Price \$6.00.

This work has fully merited its popularity. In looking it over critically one is readily convinced of this. The present edition is up-to-date in all respects. The revision would seem to leave nothing more desired within the scope of a work of this kind. All the newer terms and definitions seem to have been included. The illustrations and diagrams are unusually good and plentiful. The index is very full and satisfactory and the typographical construction is excellent.

It is not only a handy but a very dependable reference volume. We cannot conceive of more being condensed into the same space than this author has used. It is an ideal desk book not only for the neurologist and neural surgeon but for the oculist and aurist as well.

The medical undergraduate would find it a useful supplement to his other textbooks, especially on account of the numerous diagrams.

F. R. F.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH WITH AN INTRODUCTION TO PRACTICAL GASTRO-ENTEROLOGY. By Martin E. Rehfuss, M.D., Assistant Professor of Medicine at Jefferson Medical College. Octavo volume of 1236 pages with 519 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company. 1927. Cloth, \$12.00.

This book is without question a most practical volume devoted to the consideration of every day problems in diseases of the stomach. The special chapters by such recognized men as Drs. John B. Deaver, Chevalier Jackson, Willis Manges, John Farrell, John A. Kolmer, J. Alexander Clarke, William MacCarty and B. B. Vincent Lyon tend to make the book most complete and authoritative in every condition pertaining to the gastro-intestinal tract. The excellent chapters on medical treatment with instructions and diet lists are very good but not as comprehensive as they could be, since the author has failed to recognize any of the newer work of the Von Bergman school in Berlin.

In my opinion this excellent volume will more than fulfill one of its purposes, namely, to stimulate further study in gastro-enterology. The reviewer unreservedly recommends this excellent edition not only to the internist but to all interested in the practice of the science of medicine.

A. C. C.

A TEXTBOOK OF THERAPEUTICS, INCLUDING THE ESSENTIALS OF PHARMACOLOGY AND MATERIA MEDICA. By Arthur A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Seventh Edition, Entirely Reset. Octavo of 758 pages. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$6.50 net.

This new edition of an already well known text contains a practical treatise of a subject which often proves somewhat of a stumbling block to those entering the actual practice of medicine. The young practitioner will therefore find in it much that will prove of every day value to him and this revision, which includes a consideration of some of the newer medicinals, will also serve the more experienced who wish to keep abreast of the times.

T. G. H.

THE HUMAN BODY IN PICTURES. Anatomy, Physiology and Embryology. By Jacob Sarnoff, M.D., Associate Surgeon, United Israel-Zion Hospital, etc. With Foreword by John Osborn Polak, M.D. With 190 original illustrations, mostly from dissections and animated drawings by the author. Physicians and Surgeons Book Co., Henry and Pacific Sts., Brooklyn, N. Y.

A beginning toward the teaching of elementary concepts of anatomy and physiology by visual methods. The descriptive matter parallels a set of film pack stereopticon illustrations. A very short concise statement of a few outstanding essential points in the anatomy and physiology of the organs serves as an outline for a systematic explanation of the pictures.

E. A.

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ORIGINAL ARTICLES

HEREDITARY BLINDNESS IN MISSOURI

H. D. LAMB, M.D.
ST. LOUIS

Blindness is that visual handicap which limits the individual's usefulness to society.

This handicap is early manifested in the blind child by his inability to keep up in the usual school class. The upper limit of blindness is on an average 20/80, or making out at no greater distance than 20 feet a letter that should be normally distinguished at 80 feet. This limit naturally varies considerably with the intelligence and spirit of the child, being as high as 20/50 in a dull, indifferent pupil and again 20/120 in a bright ambitious scholar.

At the Missouri School for the Blind 139, or 25 per cent., of the 556 pupils attending school in the last 23 years (which is as far back as the school medical records go) have lost their sight through hereditary blindness.

In 1924, through the efforts of the Missouri Association for the Blind, special classes were started in the St. Louis schools for semi-sighted pupils. The vision of these pupils varies between 20/50 and 10/200, which is sufficient to enable them to study books with large type and to distinguish large writing on the blackboard. There are included in our figures 13 cases of these semi-sighted scholars, handicapped by hereditary ocular changes; 13 is 26 per cent. of the 50 pupils on whom we have accurate ocular records in these special classes. (In addition, 4 scholars in the special classes had previously

attended the Missouri School for the Blind and had consequently been counted before.)

We have tabulated in several tables the 152 pupils blinded from the well recognized hereditary ocular changes, as found at the Missouri School for the Blind and in the classes for the semi-sighted in the St. Louis schools.

Table No. 1. CAUSES OF HEREDITARY BLINDNESS
IN 606 SCHOOL CHILDREN

	Number of		Total	Per cent. of 606
	Boys	Girls		
Congenital cataract	32	22	54	9.0
Hydrophthalmus	22	9	31	5.1
Microphthalmus	13	11	24	4.0
Retinal degeneration	13	12	25	4.0
Retinitis pigmentosa	7	2	9	1.5
Anophthalmus	3		3	0.5
Aniridia	1	2	3	0.5
Dislocation of lenses	1	1	2	0.3
Coloboma of the iris		1	1	0.2
Total	92	60	152	25.1

The term hydrophthalmus as used by the German writers would seem preferable to buphthalmus in designating conditions of congenital glaucoma since the term buphthalmus can also be applied to the enlarged eyeballs produced in young children by extensive corneal ulcers.

In the writer's observations the majority of cases of retinal degeneration among children and adolescents could be definitely differentiated from cases with retinitis pigmentosa. In these tables the term retinal degeneration is used where the retinal changes involve the central parts of the fundi as early as the more lateral parts and these changes are characterized ophthalmoscopically by stippling or fine mottling and the presence of only a few small, compact pigment masses.

	Total	None	Light per- ception	Light per- ception to 5/200	5/200 to 20/200	20/200 to 20/80	20/80 to 20/60	20/60 to 20/40
Congenital cataract	54	1	2	12	18	19		2
Hydrophthalmus	31	8	7	11	5			
Microphthalmus	24	12	2	2	6	2		
Retinal degeneration . . .	25	4	2	9	3	5	1	1
Retinitis pigmentosa . . .	9		2	3	3	1		
Anophthalmus	3	3						
Aniridia	3				1	2		
Dislocation of lenses. . .	2			1	1			
Coloboma of iris.	1					1		
Total	152	28	15	38	37	30	1	3
Percentage		18.4	9.9	25.0	24.3	19.7	0.7	2.0

Table No. 4. NUMBER WITH PARENTS RELATED. CASES WITH BLIND RELATIVES.
NUMBER WITH MENTAL CHANGES IN RELATIVES.

		Cases with parents related	Cases with blind relatives 3rd Generation same family	cousins	2nd Gen.	1st Gen.	Mental
Congenital cataract	47		11	1	16	10	1
Hydrophthalmus	31		2				1
Microphthalmus	23	3	2				3
Retinal degeneration	21		5	2			
Retinitis pigmentosa	9	1	4	1	1	1	
Anophthalmus	3						
Aniridia	2		2		2		1
Dislocation of lenses.....	2						
Coloboma of iris.....	1		1		1		1
Total	139	4	27	4	20	11	7

Table No. 5. NUMBER OF PUPILS FROM COMMUNITIES OF DIFFERENT SIZES FOR EACH CAUSE OF HEREDITARY BLINDNESS.

	Over 100,000	100,000 to 5,000	5,000 to 100	100 and less	Total
Total population each community (1920).....	1,097,307	379,155	658,739	1,268,854	3,404,055
Congenital cataract	2(?) 15	5	19	6	47
Hydrophthalmus	2(?) 7	5	13	3	31
Microphthalmus	1(?) 1	2	10	9	23
Retinal degeneration	3(?) 5	3	9	1	21
Retinitis pigmentosa	1		6	2	9
Anophthalmus		1	1	1	3
Dislocation of lenses	1		1		2
Aniridia			2		2
Coloboma of iris	1(?)				1
Total	9(?) 30	17	61	22	139
To each 100,000 of population.....	3	4	9	2	

In Table No. 6 we tabulate the number, vision, age and sex of 49 hereditary blind adults among 638 adults in St. Louis having vision less than 20/450. We should expect the relative amount of hereditary blindness among blind adults to be much less than among blind children.

	Vision														Sex												
	00—		L. P.		10/450		20—		30—		40—		50—		60—		70—		80—		90—		100		Male	Fe.	
	Total	L. P.	10/450	20/450	30/40	40/50	50/60	60/70	70/80	80/90	90/100	100 over															
Congen. Cataract.....	6	3	1	2	3	1	1	1																	3	3	
Hydrophthalmus.....	5	3	2		3		1	1																	2	3	
Microphthalmus.....	2	2			1		3																		1	1	
Retinal degeneration...	16	10	5	1	1	2	3	4	1	3	1	1													8	8	
Retinitis pigmentosa...	20	10	8	2	1	4	3	7	4		1														13	7	
Total.....	49	28	16	5	9	7	9	13	5	3	2	1													27	22	
Percentage.....	7.7	57.1	32.7	10.2																					55.1	44.9	
		of 638																							of 49		

For purposes of comparison there is appended Table No. 7, showing the number of cases blinded with the different forms of hereditary blindness in 1100 children observed over a period of 10 years at a number of London schools for the blind by Mr. N. Bishop Harman (British Medical Journal, 1914, 2, p. 390).

Table No. 7. *HEREDITARY BLINDNESS AMONG 1100 BLIND SCHOOL CHILDREN IN LONDON, WITH AMOUNT OF SYPHILIS IN RELATION AND NUMBER OF FAMILIAL CASES, AS REPORTED BY MR. N. BISHOP HARMAN.*

Cause of blindness	No. of cases	Syphilis certain	Syphilis probable	Familial cases	Per Cent. of 1100
Congenital cataract.....	100	11			9.0
Hydrophthalmus....	17	5	2		1.5
Microphthalmus....	40	2			3.6
Albinism.....	25	2		10	2.3
Retinitis pigmentosa.	21		1	8	1.9
Anophthalmus.....	2				.2
Aniridia.....	6				.6
Dislocation of lenses	19	1			1.7
Coloboma of iris....	10				1.0
Total	240	21	3	18	21.8
Percentage of 1100....	21.8%				

Table No. 8 shows the amount of hereditary blindness found by Dr. H. Frese among 849 young students at the Federal Institute for the Blind at Steglitz-Berlin. (Klin. Wochenschr. 3:2, 1924, p. 2380.)

Table No. 8. *NUMBER OF YOUTH OF EACH SEX BLINDED BY HEREDITARY OCULAR DISEASE AMONG 849 YOUNG BLIND STUDENTS OBSERVED AT THE FEDERAL INSTITUTE FOR THE BLIND AT STEGLITZ-BERLIN BY DR. H. FRESE.*

Causes of blindness	Total Number of cases	Number of		Per cent. of 849
		Boys	Girls	
Congenital cataract	40	29	11	4.7
Hydrophthalmus	62	44	18	7.3
Microphthalmus	25	15	10	2.9
Pigmentary degeneration of retina.	11	5	6	1.3
Anophthalmus	1	1		0.1
Coloboma	4	1	3	0.5
Total	143	95	48	16.8

In these times when an earnest effort is being made to put eugenics into practice, it is important to have accurate statistics on hereditary blindness. It has been repeatedly stated that the U. S. Census on Blindness is worthless; we have therefore in this country only guesses as to the amount of hereditary blindness existing. It is true that our figures are small but they are valuable as indicators. Although possessing figures on 6000 blind adults we were unable to use them in these statistics on hereditary blindness because the changes of hereditary blindness are too frequently overlooked in a hasty examination.

826 Metropolitan Bldg.

THE RELATION OF SOCIAL HYGIENE TO THE PREVENTION OF BLINDNESS*

B. FRANKLIN ROYER, M.D.

Medical Director of the National Society for the Prevention of Blindness

NEW YORK

Had public health volunteer and social agencies not been reluctant to discuss the relation of social hygiene to impairment of vision and blindness over the period when these agencies have been active, we should today have accumulated more data upon which we might base our discussions. Fear of offending those with impaired vision or with blindness has, for a long time, made frank discussion of this relationship taboo.

Today, we are privileged to discuss this relationship in the Commonwealth of Missouri, where classification of the causes of vision impairment, and blindness especially, is better worked out than in any other American state. It is perhaps because of the pension law in this great Commonwealth and, in some measure, because of the impositions upon the Commonwealth where pensions were given to the undeserving, that the studies and classifications of the causes of blindness were prompted, giving us our dependable, present-day data.

It is but fair, however, to say that ophthalmologists had for some years been very carefully analyzing the causes of blindness at the time of admission of pupils to schools for training the blind, in nearly all of our best institutions. In some instances workshops and homes for the blind had, because of the intense interest of some local ophthalmologist, tabulated fairly complete data. Nowhere, however, had these data been carefully assembled to show the relationship of the whole problem of social hygiene to blindness.

With interest aroused in averting ophthalmia neonatorum, analysis of the causes of blindness in training schools for the blind served as a guide. These data were later supplemented with the statistics from maternity hospitals. Here we were dealing with a social disease in sixty per cent. of the infected eyes. One type of infection of interest to us in this discussion today is that of the gonococcus, the source of invasion being the birth canal of the expectant mother, with soilage of the eyes at the time of birth and subsequent inflammatory involvement of the eyes of the newly born the result.

It is somewhat interesting to note that Gib-

* Presented at the Regional Conference on Social Hygiene, Kansas City, Mo., October 11, 1927.

son, of Manchester, England, more than a hundred years ago, pointed out that mothers afflicted with gonorrhea were likely to give birth to children whose eyes would shortly be invaded or lost from the ravages of this eye disease, ophthalmia neonatorum. This wise clinician, Gibson, also pointed out the necessity for treatment of the birth canal long before the expected birth of the baby and pointed out too that soilage of the eye tissues should be removed by copious cleansing immediately after birth.

More than sixty years later Credé, in the maternity hospital at Leipsic, developed by trial and error a plan of medication that has revolutionized precautionary measures in relation to the prevention of blindness in the newborn. Credé's researches led to the routine use of the chemical nitrate of silver, in one per cent. solution (used originally in two per cent. solution) as quickly as possible after the baby is born.

In Gibson's time, which, of course, preceded knowledge of bacteriology, and in Credé's research, coming almost synchronously with the development of modern bacteriology, eye infections following birth were nearly all attributed to gonorrheal infection. Modern laboratory research has shown that the germ soilage of the birth canal may occur in any expectant mother and germ invasion of the eyes of the newborn may occur at any birth, and that only sixty per cent. of the inflammatory conditions of the eyes of the newborn is due to the gonococcus.

Dr. Mark Stevenson, of Akron, Ohio, one of America's early students of this precautionary procedure, finding it embarrassing at times to promote public instruction when speaking of a social disease often involving moral turpitude, taught us that it is very much wiser frankly to discuss this problem as an incidental hazard to childbirth. Stevenson pointed out that birth infections are due to at least half a dozen different kinds of germs, many of which are commonly found about any person's body.

The staphylococcus, for instance, which causes boils, may be carried to any part of the human body. The streptococcus, which causes septic conditions following childbirth, may have been lurking about the birth canal and may attack the bruised tissues of the womb or birth canal. The pneumococcus, which is in nearly everybody's throat and lungs awaiting lowered resistance to become more virulent, may readily be transferred by the hands of the mother to the vaginal tissues, may multiply there, and thence invade the eyes during birth. The germ causing nasal catarrh may be transmitted by hands to the birth canal.

Any of us having a rational knowledge of what occurs at birth will know that nearly every baby may have its eyes soiled with fecal matter from the mother's intestinal canal, hence, by the colon bacillus. All of these germs are serious hazards to the tissues of the eye not yet frequently washed and bathed with tears.

Thirty-two states supply those who officiate at birth with a preparation of nitrate of silver, for the most part dispensed in wax ampules, convenient for use and in packages suitable for slipping into the obstetric bag outfit. Most states now require by regulation or by law

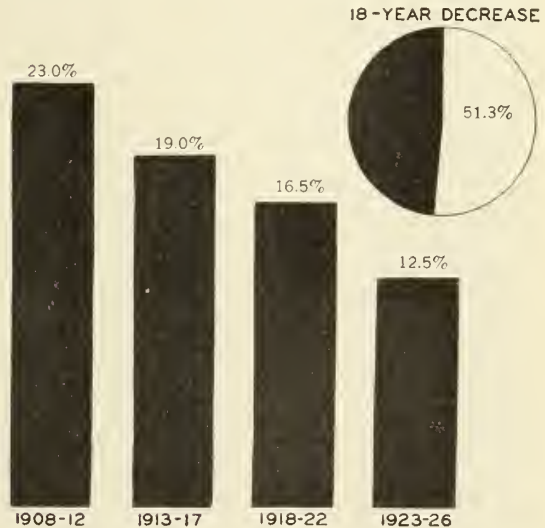


Fig. 1. Blindness due to ophthalmia neonatorum in U. S. Schools for the Blind.

that some prophylactic be used routinely at childbirth. The great state in which we are now in session began supplying these prophylactic ampules of silver during 1926. Records from maternity hospitals and schools for the blind give us encouraging results. We have statistics from maternity hospitals covering hundreds of thousands of births and, with routine use of silver solution, not an eye lost from birth infection.

We still have gonococcus infections with us, however, and both males and females who acquire this disease risk transmitting the purulent material by soiled fingers or by linen to their own eyes or to the eyes of others. It is not uncommon in our large social hygiene clinics and in our eye clinics to find adults with eyes inflamed with gonococcus disease and the vision gravely menaced.

We have not yet enough data to show how great has been the reduction in the incidence of the gonococcus infections, but from what has been said of this particular organism and the results obtaining one may safely conclude

that, so far as the menace to vision is concerned, under the light of modern education and modern preventive measures, the gonococcus hazard to the eyes of the baby has been reduced by more than half.

The other great social disease with which social hygiene workers are concerned—syphilis—leaves a trail of eye stigmata that pyramids to greater heights. It is not generally appreciated even by workers in the field of social hygiene that perhaps fifteen per cent. of all blindness in America is due to this single social disease, syphilis. I say fifteen per cent. in America, basing my estimate upon the figures already exactly worked out in Missouri and presented to the students of this problem by Dr. Harvey D. Lamb, of St. Louis. It is of considerable interest to those of us concerned with prevention of blindness to appreciate that while fifteen per cent. may represent approximately the number of blind whose affliction is chargeable to syphilis, perhaps an equally large number, whose vision is considerably impaired but not sufficiently so to warrant classification as blindness, are also handicapped visually because of the ravages of this disease.

Social workers will be interested to know that syphilis is the one disease apt to be transmitted through several generations. It is perhaps this disease to which the Bible refers as affecting the second and third generation. It is when the disease is transmitted to the unborn through the blood of the mother, and thence attacks the visual apparatus, that it is more apt to invade the vascular and muscular structures inside the eyeball rather than the nerve of vision. Heredosyphilis of this sort shows a particular selective activity for the iris, often sticking the muscle fibers together so that the pupil is held fixed and frozen—the opening being constant. It elects to affect similarly the ciliary muscles, those muscles concerned with changing the shape of the crystalline lens in accommodating for near and far vision. It chooses the blood vessels in the inner coat of the eyeball, interfering profoundly with nourishment of the more delicate structures. This type of heredosyphilis is the most sluggish and stubborn disease of the eye with which we deal. It also shows a particular liking for the deeper layers of the cornea of the eye; the technical term, interstitial keratitis, describes the resulting inflammation.

Children afflicted with this hereditary form of social disease are apt to have inflammation of the cornea and of the iris back of it, of the ciliary muscle, of the vascular coat, or choroid, and of the retina itself, these inflammatory attacks occurring and recurring under treatment,

partially subsiding, recurring again and again until the patience of the family and of the doctor is almost worn out. Education is interfered with, vision is impaired seriously, and blindness often results in early adult life.

Modern methods of attacking the virus of syphilis in the expectant mother render this eye hazard less terrible. With the advent of chemical treatment of syphilis, i.e., by introducing the medicament directly into the blood stream and with the tabulation of data in our large clinics, we have learned that it is possible to so treat the blood of the expectant mother that syphilitic infection in the newborn is not demonstrable; in other words, an intra-uterine cure of the disease may be expected if treatment is begun before the fourth month of gestation. Not only is the child of such an expectant mother, if given treatment thus early in the pregnancy, free from the eye manifestations of syphilis, but it is free also from all other evidences of syphilis and the mother of course is cured. This type of hereditary social disease yields to persistent and long carried out treatment, even though no opportunity has been given to treat the unborn child in the months preceding birth. If untreated, a large percentage of such children are doomed to be visually inefficient, or community deficits.

The worker in the field of social hygiene who fails to utilize the eye as a control and to search for eye stigmata where syphilis is suspected because of family history is not doing all that wisdom would indicate in protecting the patient. Social hygiene clinics often do the best kind of work in the prevention of blindness because of their holding up to long continued treatment of persons afflicted with syphilis. Too often the social hygiene clinics are concerned with adults only and fail to get the hereditary case in infant life, in pre-school life, and in early childhood. It is with the tragedies of this group that we need to be more concerned. With this group we have our greatest vision disasters, many of which might be spared.

A few words about the type of syphilis as related to blindness when this disease is acquired in adult life. Many an individual, under our modern living conditions, becomes afflicted with syphilis without bearing any stigma of immorality. As social workers and health workers concerned with cure and with averting the terrible sequels of the disease, we are not so much concerned with the problem of whether or not the disease be acquired in innocence. We seek to protect the public, to protect the individual from its ravages, and to protect the offspring. Speaking particularly of the field of its relationship to blindness

and vision conservation, we cannot too strongly urge the routine Wassermann test of the blood of every individual who might be suspected of having the disease, and persistent treatment of the affected until cured.

The eye symptoms of those acquiring the disease in adult life too often only give warning many years after the initial symptoms of the disease have shown themselves. We too often meet an individual who in the early stage of the disease was treated only while skin disfigurement was evident, or when mucous membrane invasion prompted continuous medical advice. It is in this type of case, only partially treated in the stage when the most efficient treatment should have been given, that the brunt of the poison of syphilis reaches the central nervous system, the spinal cord and the delicate nerves of vision. This is the type of case that may come into the physician's office with shuffling gait, lost knee jerks and failing vision. This is the type of case with hopelessly progressive optic atrophy, and with blindness the inevitable result. This is the type of case that, with adequate treatment fifteen or twenty years earlier, when only partial treatment was given, would have resulted in complete cure with these hopeless end results altogether averted.

In conclusion, may I stress to this audience of social workers in the field of social hygiene, the need of emphasizing the relationship between the two social diseases commonly met with and the vision of the individuals afflicted and of the children of such individuals? If we can make all persons engaged in the field of social hygiene and social work generally, and in the field of preventive medicine, appreciate that recognition and persistent treatment in the early stages are rational practice in prevention of blindness, then we shall have promoted a lesson that may prove of tremendous value and that may serve to lessen economic deficiency, physical handicap and social misery.

370 Seventh Avenue.

COMMON ERRORS IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS*

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Almost a quarter of a century ago a group of prominent physicians, including Osler, Welch and Trudeau, created an organization for intensive warfare against tuberculosis, then foremost among the causes of death. It was recognized at that time that the most successful

medical attack upon the disease lay in early diagnosis and in prolonged treatment upon the lines which Trudeau had begun to demonstrate at Saranac twenty years before.

Since the creation of that organization in 1904 the mortality from the disease has decreased from 200 per 100,000 of population to 80 per 100,000 of population, a decrease of 60 per cent., and tuberculosis has fallen to seventh place among the causes of human mortality. During these twenty-three years no specific or definite cure of tuberculosis has been discovered. The large number of alleged specifics which have appeared have been tried out and discarded. The chief contribution which medical art has made to the reduction of mortality has been through earlier diagnosis and earlier and more persistent treatment along simple and generally known lines. And now, at the end of a quarter of a century, students of tuberculosis announce as their aim for 1928: "Earlier diagnosis and earlier and more persevering treatment."

Regardless of the simplicity of the oft-repeated principles involved, there still seem to be misconceptions on the part of many physicians resulting in delay in diagnosis until the curable stage of the disease is past and misunderstandings of the details of treatment causing far more failures than there should be and far more reactivations of apparently cured cases.

In the past, it was frequently said that there is a stage in every case of tuberculosis in which the disease is curable. This would seem to imply that the total mortality is due to failure in making an early diagnosis. This statement is not exactly true. In miliary tuberculosis and certain acute, explosive types, the patient is doomed at the time the earliest possible diagnosis can be made. It is true, however, that a very large percentage of cases, perhaps 80 to 90 per cent., end in failure through belated diagnosis and faulty methods or too brief duration of treatment.

Out of an experience of about twenty years devoted to tuberculosis, both in sanatorium and private practice, certain of these misconceptions and misunderstandings have been emphasized through their frequent repetition.

The successful treatment of tuberculosis, now as always, depends very largely upon early diagnosis. The recognition of tuberculosis in its early stages does not require a very high degree of special knowledge and technical skill; but demands close, systematic observation; a judicial attitude in weighing evidence and considerable courage. There is no pathognomonic sign of early tuberculosis. Positive sputum is very rarely observed until the disease is at least

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moderately advanced. Hemorrhage, even slight in amount, usually indicates cavity and advanced disease. Cough, production of sputum, accelerated pulse, elevated temperature, marked physical findings and definite X-ray shadows are usually indicative of at least second stage. The diagnosis of early tuberculosis must be made, in most cases, before there are marked evidences of respiratory involvement.

The clinical picture upon which we must have the courage to make our diagnosis will probably include little more than loss of weight, weariness, mild digestive disturbance, slight cough or clearing the throat, a slight afternoon elevation of temperature or a morning subnormal and afternoon normal, very slight variation from the normal in chest findings and shadows on the X-ray plate which would probably escape one not experienced in the interpretation of chest plates. Sputum cannot be regarded as negative until at least twenty specimens have been carefully examined. Even then, negative sputum has no significance in proving an early or even a late case nontuberculous.

The clinical picture is likely to be much more suggestive of neurasthenia or mild focal infection than of lung disease. Within recent years, much active tuberculosis has been mistaken for focal infection and scores of sanatorium patients appear after tonsillectomies, appendectomies, gallbladder drainage, wholesale removal of teeth, pelvic operations and thyroidectomies, their tuberculous disease often seriously activated by much surgery and general anesthesia. In passing, I should like to say that, in my opinion, no patient suggesting toxemia or focal infection should be subjected to surgery under general anesthesia unless tuberculosis has been ruled out by exhaustive study.

In the face of this rather vague clinical picture, we may derive great assistance from a well taken, written case history. In fact, we have demonstrated to our own satisfaction that more accurate diagnoses of clinical tuberculosis may be made on the case history alone than on physical examination alone or on X-ray and other laboratory procedures alone. Such incidents in the history as slow convalescence after measles, definite impairment of health after childbirth, repeated attacks of influenza or pneumonia, neurasthenia or nervous prostration, continued digestive disturbance (and especially that vague thing we call "nervous dyspepsia"), irregular typhoid fever, malaria—these things, however remote they may be, should be regarded as very suggestive. Hemorrhage, even of the most insignificant character, pleurisy especially with effusion, and ischiorectal abscess

should be held as very strong evidence of tuberculosis which can only be dismissed by overwhelming proof. The frequency with which pulmonary hemorrhage is dismissed as unimportant or attributed to the gums or throat is almost unbelievable.

Making a positive diagnosis on such evidence as this, when it is known that our verdict will be most unwelcome, requires careful consideration, the weighing of values and considerable courage. In the words of one of my colleagues, it takes gumption and guts. It is a serious matter to reach a decision which will disrupt the patient's domestic and business life for a period of from one to two years. It is a far more serious matter however, to fail to issue the verdict if justified by the facts—and delay is usually extremely costly. Two or three months may change the curable patient into one hopelessly sick. Incidentally, I am convinced that there are a hundred erroneous negative diagnoses to one erroneous positive diagnosis.

For the confirmation of the suspicions aroused by case history and physical examination, we are disposed to turn to the X-ray with perhaps a bit more confidence than is justified. The value of X-ray in checking up our findings cannot be overrated; but it is a distinct mistake to expect it to be the major factor in diagnosis. At times the chest picture will bring to our attention closed and silent cavities—evidences of advanced disease—which entirely escape the stethoscope. On the other hand, the X-ray may be entirely unconvincing in the presence of positive sputum and unmistakable physical signs. In the hands of those exceptional men who are primarily students of the chest and secondarily roentgenologists, deductions are at times made from the plate that are quite astonishing; but the readings of general roentgenologists unfamiliar with the case history and unschooled in chest pathology cannot be accepted as conclusive.

The reading of the chest plate is a fine art which I have never fully mastered and, in the hands of the average physician and of many roentgenologists, even a good plate fails to tell its story. Of the numerous plates which are sent to us for interpretation, frequently from the X-ray departments of good general hospitals, a large percentage are wholly valueless. This is especially true if the operator is largely engaged in making pictures of bones, joints and foreign bodies. For the most part, these pictures are clear cut, attractive and overexposed. The soft tissues of the lung are completely lost in any clear cut, black and white picture. Others are underexposed while many are muddy, clouded, foggy and actually show

nothing. It may be said definitely that the chief value of the X-ray is to confirm a knowledge of facts gained on physical examination; that the best of plates may mean little to the novice; that a poor plate means nothing even to the expert.

It is perhaps not surprising that diagnosis is overlooked in this vague clinical picture of early disease; but, unfortunately, there is adequate evidence that many advanced cases are still escaping detection. There is still a tendency to regard one or two negative sputums as significant; still a failure to recognize that when the tuberculous patient is actually sick, he is approaching dangerously near to the incurable stage of the disease. Perhaps the most common misconception is the meaning of temperature in tuberculous disease. A very slight elevation is important and subnormal temperature has almost as much significance as fever. A temperature of 100° in tuberculosis is as serious as a temperature of 104° in ordinary acute disease. There is no such thing as a one-minute thermometer. Unless the thermometer remains in the mouth at least ten minutes, its reading should not be accepted. The elevation in temperature may be very evanescent and it may occur at any time of the day. These are details; but they are important details.

In a disease in which there are no pathognomonic signs and with several conditions simulating it closely, differentiation may become confusing. I have already referred to focal infection and to that vague toxic state known as neurasthenia. The clinical picture in both of these conditions tallies very closely with Head's description of "concealed tuberculosis," while Fishberg declares that hundreds of cases are treated as nervous prostration for months or even years before the true tuberculous condition is detected. On the other hand, Dunham, after an exhaustive study, says that the condition most commonly mistaken for tuberculosis by experienced men is sinus infection.

The coincidence of thyroid disease with tuberculosis is familiar to all physicians and we are by no means sure that tuberculous toxemia is not an exciting factor in hyperthyroidism. At any rate, differentiation may prove very difficult if not almost impossible. The metabolism rate may be entirely misleading in the presence of fever which is usually present in the most puzzling cases. Fortunately the management of tuberculosis and thyroid disease is much the same, and prolonged, absolute rest, away from family and friends, may be wisely advocated in either case. In the coincidence of tuberculosis and thyroid disease surgical interference becomes doubly hazardous.

In some instances, syphilis may present a very confusing picture and I would venture the suggestion that snap judgment be not taken when the question of these two diseases is involved. A four-plus Wassermann may be found with a positive sputum—active tuberculosis and syphilis may coexist; further, the treatment of lues in a tuberculous patient must be handled very cautiously. The foreign proteids and potassium iodide, advocated in syphilis, may play havoc in the presence of tuberculosis and even salvarsan must be given in reduced and guarded doses.

A diagnosis of bronchitis, asthma, lung abscess or bronchiectasis without sifting the evidence for signs of tuberculosis has led many competent men into difficulties. One cannot be sure that bronchitis is not tuberculous bronchitis; that asthma is not due to extensive pulmonary tuberculosis or extensive fibrosis. The rupture of a large tuberculous cavity into a bronchus has been mistaken for abscess. In the suspicion of abscess, bronchiectasis and malignancy of the lung, the X-ray proves of inestimable value; but such X-ray differentiation is the work of the expert. In many of these doubtful cases a series of not less than twenty sputums may render further exhaustive search unnecessary. In differential diagnosis, it is well to bear in mind the statement of the U. S. Veterans' Bureau, that, in late youth and early adult life, the condition is far more likely to be tuberculous than anything else that closely simulates tuberculosis.

Practically all physicians agree that the one dependable remedy in tuberculosis is rest—more important than climate, tuberculins, vaccines, medicines, fresh air, food, heliotherapy and surgical interference combined. For the most part, rest is not begun early enough; is not rigidly enough enforced and is not continued for a sufficient length of time. In the presence of activity, indicated not alone by fever, but by nervousness, indigestion and other signs of toxemia, rest should be of the typhoid type with bed pans and bed baths. Not only visitors but the members of the family should be excluded. Exercise has no part in the treatment of active tuberculosis and there is no medical treatment sufficiently valuable to justify a visit to the doctor's office when the patient is running temperature. It is a safe assumption that if the tuberculous patient does not improve under rest treatment he is not having enough rest. Adequate rest for the actively tuberculous patient can rarely be obtained in the home.

The question is often raised as to how long the patient should remain at complete rest. The answer can be definite only to this extent: Rest

must continue until the temperature has been normal every hour in the day for at least a week and until all symptoms of toxemia have disappeared. It will rarely be less than two or three months and may extend over years. We have one patient with advanced disease who entered the sanatorium with a fatal prognosis, who remained in bed for seven years before she was carried to the table to her first meal. Now, at the end of ten years, she is able to go to the bathroom and occasionally for an hour on the terrace. This is an extreme case; but there is no doubt in my mind but that, if she had deviated from this program, she would have died eight or nine years ago.

Good food is desirable; but stuffing with milk and eggs is to be avoided and there should be no feeding between meals unless there is definite indication for it. Open-air life should be insisted upon; but it is not only bad practice, but brutal, to expose an advanced patient needing bedside care, to severe, inclement weather out of doors. Tents are mentioned only to be unqualifiedly condemned as wholly unfit for housing the sick.

Perhaps the most common cause for failure in treatment, except insufficient rest, has been undue reliance upon specific or near specific remedies. While I believe we will see a revival of interest in tuberculin, on account of the recent establishment of a real standard of potency, I have lost all confidence in tuberculin as a major element of cure in pulmonary disease. All sorts of serums and vaccines have proven distinctly disappointing in our hands after the usual psychologic effect has worn off. I have never seen anything like uniform benefits from iodine or calcium. Creosote and cod liver oil may prove beneficial under some circumstances; but I am disposed to feel that they have done more harm in disturbing digestion than they have done good. I am in no sense a drug nihilist; but I am convinced that the drug treatment of tuberculosis should be absolutely symptomatic with definite, clear cut indications for every drug given. I am also impressed that the majority of tuberculous patients are given far more medicine than is good for them. Most cough mixtures upset the digestion and destroy the appetite, both of which are vital in this disease. Morphine and codeine should be reserved for emergencies and should not be given for ordinary cough, restlessness or pain. Many patients enter sanatoria little short of being drug addicts.

The object of complete rest in tuberculosis is to limit respiratory excursion and circulation so as to permit the diseased lung to heal. In addition to complete bed rest, much has been done in recent years by localized rest of the af-

fected lung. This may be attained in modified form by educating the patient to breathe slowly, as advised by Knopf, or modified localized rest may be had by having the patient lie on the affected side, by the use of sandbags or, better, by certain simple chest splints.

Better and more complete results may be obtained in suitable cases by compressing the affected lung by artificial pneumothorax and this procedure is now established as an important part of modern treatment. The procedure, which is relatively simple in competent hands, may be employed in those cases in which the other lung is sufficiently good to assume the added burden of respiration; but in many cases it is impossible on account of pleural adhesions. In that case, one may resort to thoracoplasty, or the multiple resection of ribs. It is my opinion that artificial pneumothorax and thoracoplasty will be employed much earlier in the future than they have in the past and that the results will be very much more satisfactory. They should be considered in all cases in which there is not improvement after six months of rest cure efficiently and strictly carried out.

Heliotherapy, either artificial or by direct sunlight, may prove very valuable in carefully selected cases, but should be employed only under constant medical supervision. I am sure that many cases have been further activated and many lives sacrificed through the use of light in acute, febrile cases.

It is said that 75 per cent. of curable patients lose their fight during the first year or two after all symptoms and signs of active disease have disappeared. Certainly the percentage of reactivations in apparently arrested or cured cases is disappointingly high. It is a safe rule to say that no patient should resume a gainful occupation of any kind or responsibility of any kind for a period of one year after being found clinically arrested. During this time he should be seen at least once a week by his physician and a careful record of his weight, temperature and general welfare should be kept. A careful physical examination, with the patient stripped to the waist, should be made once a month and all colds, indigestion or nervousness should be regarded as probable evidence of reactivation. On the slightest evidence of indisposition, the patient should be put back to bed for an indefinite period of time.

Finally, it must be borne in mind that many of the symptoms of early tuberculosis may be caused by emotional disturbance—by worry, fear, uncertainty, disappointment and by family and business affairs. We have numerous instances in our case records where obtaining the

complete confidence of the patient and the tactful removal of the cause of anxiety have been the turning point toward recovery. Frequently the emotional disturbance is due to a misunderstanding of the patient's condition or an underlying fear of death. In no other disease is the firm, intelligent, sympathetic attitude of the physician more necessary and in no disease is there greater opportunity for the application of common sense psychotherapy. In failing to devote time and serious attention to the mental state and the apparently trifling details of the patient's physical condition and his personal affairs, the doctor loses his opportunity to do more for the tuberculous patient than is promised by any definite remedy that we now have at hand or in immediate prospect.

Leland Office Building.

ANACATADIDYMUS

REPORT OF A CASE

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AND

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The mother, a septipara, is 35 years of age. Her family history is negative in that no incidence of tuberculosis or carcinoma could be



Fig. 1. Lateral view showing flanks of each child.

elicited therefrom. Inasmuch as the attending physician had not seen the patient previous to this visit no history had been obtained.

The first examination revealed a head in O. D. A. position presenting at the vulva with a prolapsed cord, absent of pulsation. The first stage of the labor began at 8 p. m., December 19, 1927. The second stage ended at

5:20 the following morning when a full term, dead, fetal monstrosity, weighing 11 pounds, was delivered. A normal placenta was voluntarily expelled about five minutes after the delivery.



Fig. 2. Posterior view of the larger twin showing beautiful development.

It was interesting to note that the physical make-up of the two fetuses presented definite familial resemblances. The larger exhibited a distinct likeness to the mother who is large, strong, of dark complexion and coarse features; the father is of small stature, with fine features, blue eyes and light skin, from whom the smaller probably inherited its physical characteristics.

There were two heads present, one a third larger than the other. In the smaller, the eyeballs were absent and it gave further evidence of maldevelopment in that it had a cleft palate. The normal attitude of the fetuses presented a picture of the smaller child nestling snugly with its right cheek against the ear and neck of the larger. Two normal arms and hands were situated in front; likewise, two legs. On the posterior surface of the pelvis one leg was shown. At the distal end of this leg was a bifurcation, giving the presence of two normally formed feet. The same condition existed with reference to an arm, except the bifurcation was at the elbow, giving rise to two normal forearms and hands. There were two nipples, two distinct, normal vaginæ and two rectums. Only one cord existed, though it was attached in about the normal position. There was complete union of the bodies from the shoulders to the pelvis.

RADIOGRAPHIC FINDINGS

There was one skull of normal size and outline while the other was about two-thirds of this size. Two normal, free arms were shown. The other two arms were fused by tissue extending to the elbow, which tissue contained

two fully developed humeri. The fused arm extended backward with two distinct shoulder girdles. The forearms and hands were normal. There were separate body cavities. The lungs were atelectatic. The heart shadow and



Fig. 3. A very comprehensive picture showing effect of pressure of smaller head against neck of the larger head during delivery. Note flatness of smaller head due to pressure.

the viscera were not visualized. The body framework was fused at almost right angles. The pelvis contained four ilia. The vertebral columns were normal. The leg on the posterior surface of the pelvis showed a single femoral shaft down to about the junction of the middle third, where the femur divided into two distinct shafts. The lower end of the leg contained one large bone, apparently the tibia, about twice the size of that of the normal. There were also two small bones, apparently the fibulae. The leg was fused entirely with normal bone development in the two feet at the tip of the leg.

AUTOPSY FINDINGS

A single thorax, with the ribs of the larger fetus united to the ribs of the smaller with a clearly defined sternum united by broad plates of cartilage, was observed. The posterior walls of the thorax were flanked by the two vertebral columns with cartilaginous union of the left ribs of the one to the ribs of the right side with the other. The diaphragm was single and separated the single thoracic from the single abdominal cavity. The heart was medially placed, well developed and was large and strong in its appearance. There was one

lung to each child on each side of the mediastinum, but neither had been inflated. The thymus glands, one for each fetus, were normally placed and apparently normal in size. The abdominal cavity, on being opened, presented one large liver with a middle lobe extending in a loop well down into the abdominal cavity. One pancreas and one spleen of normal size and in normal position were noted. There were two separate, well formed stomachs properly placed for each fetus. Two separate, complete intestinal tracts, with no septum intervening, led down to separate ani. There were two kidneys for each child and in normal position with respect to each spinal column. Two bladders were found in the single, large pelvis. There were two separate meati urinarii normally situated in the separate, external genitalia. The uterus, fallopian tubes, ovaries and vagina of each specimen were normal with the exception that both uteri were bicornuate. The uterine cornua of the smaller fetus were longer and more primitive than those in the larger and were approximately three-fourths of an inch in length.



Fig. 4. Two vertebral columns and the astounding fact of only one chest cavity, one heart and two lungs are clearly shown.

The authors desire to express sincere thanks and give due credit to Doctor H. D. McGaughey for the roentgenograms and to Doctor S. A. Grantham for the autopsy performed in this case.

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TREATMENT OF INTRACRANIAL
HEMORRHAGE IN THE NEW-BORN*

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Intracranial hemorrhage in the new-born is now recognized as the most common condition met with during the first few days of life. It is likewise the greatest cause for stillbirths, certain paralyses and mental retardation seen somewhat later in life.

Womack¹ states that of approximately 200,-000 infants who died last year during the first year of life 60,000 died in the first week and 25,000 the second week. Knox² somewhat astounds us when he remarks that 100,000 lives are lost in the United States annually under 1 month of age and fully another 100,000 die before full term. Litzenberg³ causes us to pause when he reminds us that fifty per cent. of the babies who die in the first year perish in the first month and 5 per cent. die at birth or during the first day.

Huenekens⁴ states that infant feeding divides with hemorrhage the honor of being the most important factor in neonatal mortality. Foote⁵ has pointed out that congenital heart disease and especially patent foramen ovale is too frequently given as a cause of death. He quotes Hemenway: "It is in the opinion of the writer very doubtful if patent foramen ovale is ever directly or indirectly a cause of death."

Ehrenfest⁶ says: "In necropsies properly performed on all stillborn infants and new-born infants dying within the first few days of life, some lesion, clearly traumatic in origin, is discovered within the skull in approximately one-half of the cases." Warwick⁷ adds strength to this statement in finding 44 per cent. or 53 meningeal hemorrhages on necropsies of 136 still-born and new-born infants dying during the first few days of life. It is important to bear in mind that all intracranial injuries are not necessarily accompanied with hemorrhage but would likely show a tear and bleeding of some degree. (Table 1.)

TABLE 1. Necropsy findings in new-born infants. Warwick

		Per Cent.
Cases examined	200	
Complete	136	
Traumatic deaths	15	7½
Cerebral hemorrhage	53	44
Hemorrhagic disease	41	20½
Malformations	30	15
Birth injuries	7	3½
Congenital syphilis	19	9½
Acute infections	7	3½

FREQUENCY

The frequency of intracranial hemorrhage was found clinically to be 9 per cent. by Sharpe and Maclaire,⁸ in their series of 500 new-borns. In a series of 423 new-borns Roberts⁹ found 14.1 per cent. The frequency at necropsy averages, from the work of nine separate workers, 22.3 per cent. (Table 2.)

ETIOLOGY

Before taking up the treatment proper I may be pardoned for briefly mentioning some points on the etiology which seems necessary for the understanding of the plans of treatment.

Trauma. Undoubtedly trauma is responsible for the larger number of cases as has been shown repeatedly by Gordon,¹⁰ Schwartz,¹¹ Ehrenfest,⁶ Warwick¹² and others. Injury and accompanying hemorrhage is to be looked for in all forceps deliveries, all breech, all prolonged and difficult labors, in those forced through too rigid os or vulval ring, especially in the primipara and when pituitrin has been used in large doses. It may occur, however, in easy quick deliveries.

Hemorrhagic diathesis. Hemorrhagic disease of the new-born is considered by many as being contributory rather than a direct cause. Since we know that spontaneous hemorrhage occurs in various organs of the body it seems logical to believe that many cases of intracranial hemorrhage may also occur independent of injury or tearing. Foote,¹³ Rodda,¹⁴ Green¹⁵ and others have reported cases of intracranial hemorrhage with spontaneous hemorrhage elsewhere in the body and in normal labor. Injury of the brain, with bleeding, no doubt is more likely to occur in these cases of hemorrhagic disease.

TABLE 2. Percentage of intracranial hemorrhage from necropsies

Investigator	No. stillborn and dead new-born examined	No. intracranial hemorrhage	Per cent. of intracranial hemorrhage
Warwick.....	136	53	44
Deluca.....	554	201	36
Holland.....	167	80	48
Cruikshank.....	200	65	32
Hedren.....	700	65	9.28
Weyhe.....	950	114	12
Beneke.....	100	14	14
Archibald.....	73	32	43
Parrot.....	34	26	76
Total.....	2914	650	22.3*

* Average per cent.

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

Prematurity, asphyxia and toxemia are to be considered as predisposing causes. Roberts⁹ found 25 per cent. of his 60 cases occurred in prematures. Sharpe and MacLair⁸ found 9 per cent. prematures in their 45 cases. Jacobs¹⁶ and Pounders¹⁷ explain that the part played by prematurity is a weak, undeveloped and fragile condition of the blood vessels, dura and brain structure, being more easily torn than in the full term infant. Munro and Eustis¹⁸ consider asphyxia one of the most important direct causes for the condition but most investigators believe it an effect rather than a cause. The toxemias, such as foci of infection, mismatched blood, the two toxemias of pregnancy and syphilis are to be considered factors, making a weakened mother and infant, often prematurity and thereby making unnatural deliveries necessary.

TREATMENT

In taking up the treatment of intracranial hemorrhage it seems best to consider first, preventive measures; second, the care during the attack.

Preventive measures. These can be divided into, (1) prenatal care, and (2) natal care. Those who limit their practice to obstetrics will be more concerned in the prevention, while those limiting their practice to pediatrics will be more responsible for the proper care during the attack. The general practitioner who cares for the larger number of mothers and infants should be vitally interested in both plans for the prevention and the care during the attack.

Prenatal care. Not only for the prevention of intracranial hemorrhage but for other obvious reasons too much cannot be said for prenatal care. A careful general history and physical examination of every pregnant woman should be made as early as possible. Some finding may lead us to expect certain troubles in advance. Typing every expectant mother's and also the father's blood, especially in primiparae, may explain some certain diseases, as jaundice and perhaps hemorrhagic disease of the new-born, as has been suggested by Ottenberg.¹⁹

Speidel²⁰ has advised the clearing up of foci of infection as in the teeth, tonsils, ears and cervix, early in pregnancy. Toxic substances that may bear on prematurity, fragility of blood vessels and the general weakening of both mother and infant, might be avoided. He suggests the monthly weighing of the mother and the regulation of the dietary, not allowing the mother to gain more than 20 pounds. A greater weight may mean too large or too fat a baby and thus a long, slow and

difficult delivery. A mile walk each day is advised to keep the general musculature up, which may save the patient a condition of inertia and the necessity of using forceps or pituitrin.

The two toxemias of pregnancy may have a bearing on the condition under discussion. The first, states Hirst,²¹ finds its solution in our knowledge of endocrinology, the second, probably by discoveries in biological chemistry.

The Wassermann should be done routinely on every mother and father as soon as possible. Syphilis is responsible in its tendency to bring about prematurity, a weakened infant and fragile blood vessels. Young and Likins²² report in their cases the percentages of deaths in infants of Wassermann positive mothers, the treated cases being 8.5 per cent. and the untreated 47.6 per cent. Hall²³ reports 93 syphilitic mothers treated with arsphenamin and mercury with 74 giving birth to healthy children.

For keeping track of my patient's condition from month to month during the period of pregnancy, I have worked out a record card which I find quite useful and offer it here to those readers who may be interested. It is 5x8 inches in size, the one side recording the history and initial physical examination; the other side is used for the monthly observation of the patient. The card is self-explanatory as shown in Table 3.

Natal care. Royster²⁴ says: "Character tells in the surgeon's work as clearly as if his initials were stamped upon every organ and tissue that he touched." The same may be applied to the accoucheur's work telling in every mother and infant as if his initials were stamped upon his every case. His judgment and ability in the use of pituitrin, forceps, the handling of breech and other malpositions will mark the percentages of intracranial hemorrhage he may have.

Asphyxia, which should always cause one to suspect hemorrhage, is a most important point in the diagnosis and requires the utmost care in the treatment. "Effect being taken as a cause, asphyxia is blamed for many cases of stillbirths which really correspond to meningeal hemorrhage. Finkelstein gives as a differential diagnosis of asphyxia due to meningeal hemorrhage, dysphagia or the impossibility of swallowing, symptoms of which permit of its differentiation from asphyxia due to other causes. Yllpo maintains that in meningeal hemorrhage a contraction, rapid as lightning in the extremities is produced by percussing the sternum or any other part of the body."²⁵ In the resuscitation of the asphyxiated, using the method of Dew or Schultz, great care must be given as pressure on the parietals and other manipula-

Name.....	Address.....	Date of expected confinement.....
Date of last menses.....		Date first seen.....
Best Weight.....	Wt. now.....Ht.....	Wt. for Ht.....lbs. Wt. not to exceed.....lbs.

[illegible]

External conjugate.....

Transverse.....

Oblique.....

FAMILY HISTORY—	
Ch. Living.....	Ch. Dead.....Causes.....
Occupation	Occupation
Miscarriages	Miscarriages
Tuberculosis	Tuberculosis
Nervous diseases.....	Nervous diseases.....
Personal history	Personal history
.....	
.....	
GENERAL HEALTH AND HABITS—	
Appetite.....	Bowels.....Sleep.....
Recent diseases	Recent diseases
Examination	
Reflexes	Reflexes
General condition.....	General condition.....
Eyes	Ears.....
Nose	Throat.....
Gums	Teeth.....
Heart	Heart
Lungs	Lungs
Stomach	Stomach
Spleen	Spleen
Liver	Liver
Musculature	Musculature
Joints	Joints
Abdomen	Abdomen
Pelvis	Pelvis
Blood Hb. %.....	R. B. C.....WBC.....
Type—Father's	Type—Father's
Wassermann—Father's	Wassermann—Father's
URINE—	
Reaction	Reaction
Sp. Gr.	Sp. Gr.
Albumin	Albumin
Sugar	Sugar
Indican	Indican
Mosenthal	Mosenthal
Phenolsulphonphthalein	Phenolsulphonphthalein
N. P. N.	N. P. N.
Remarks	Remarks
.....	
.....	

tions may be sufficient to cause hemorrhage. The use of 1/60 to 1/30 gr. of alpha-lobelin, as suggested by Oberback,²⁶ promises much toward the resuscitation without injury or hemorrhage.

Care during the attack. It is very important to keep in mind that many cases present no symptoms whatever, and a certain per cent. manifest their first symptoms after the fourth or fifth day. Roberts⁹ found that only 26 of his 60 cases presented symptoms. Foote²⁷ has pointed out that at birth the infant may appear perfectly normal, slow bleeding going on for 48 to 72 hours before symptoms are noted. The earliest single symptom is a disinclination to nurse.

Intracranial hemorrhage of hemorrhagic disease origin. Before undertaking the treatment of this class of cases, it is necessary to determine that we have a condition due to hemorrhagic disease. The coagulation and the bleeding time must first be determined. Rodda²⁸ has described the technic for the coagulation time determining the normal to be from 9 to 10 minutes. The bleeding time has been described by Duke and the normal is 2 to 5 minutes. These two may be determined coincidentally. When hemorrhagic disease exists the clotting time may be prolonged to 30, 60, or even 90 minutes, and the bleeding time prolonged for hours. This test does not necessarily mean that the hemorrhage is in the cranium, but when accompanied with symptoms such as disinclination to nurse, muscular twitchings, intermittent cyanosis, protruding of the tongue, or irritability, we are justified in a diagnosis of intracranial hemorrhage of hemorrhagic disease origin.

The injection of whole blood subcutaneously, intravenously, or intraperitoneally is now considered the best method of treating these cases. Foote²⁹ has advised 20 cc. to 30 cc. of the father's blood to be injected subcutaneously two or three times daily until the coagulation time becomes normal. Sidbury³⁰ has recently described a method of transfusing through the umbilical vein, using in his case 5 syringefuls of 20 cc. Falls³¹ has described a technic for using the jugular vein and citrated whole blood (10 cc. of a 2 per cent. solution of sodium citrate to 4 ounces of blood). In a few cases the median basilic may be visible enough to be used and the longitudinal sinus is available to those sufficiently skilled. Munro and Eustis¹⁸ object to this method on the ground that the already congested cerebral venous system makes it undesirable. Siperstein and Sansby³² first described the intraperitoneal route with citrated blood, concluding that it acts as a true transfusion and that it is not absorbed as nutrient

material, and propose it as a therapeutic method of merit. Grulee³³ has recently given a technic for using citrated whole blood intraperitoneally but believes it should be typed when time permits. The method seems to offer a means of transfusing these infants when much blood is needed and repetition is necessary. Its advantages seem to be its simplicity and little disturbance to the infant. It is well to keep in mind that the loss of two ounces of blood in the infant is equal to one-half gallon in the adult.

Intracranial hemorrhage of traumatic origin. Since a large number of cases present no symptoms for at least 4 or 5 days and then only mild symptoms, the diagnosis is only confirmed by lumbar puncture. Sharpe³⁴ considers lumbar puncture the best means of diagnosing intracranial hemorrhage. A bloody spinal fluid with an increased pressure with more than 8 mm. of mercury is sufficient for a diagnosis of intracranial hemorrhage; however, he warns that the dripping of bright red blood or blood-streaked fluid is due to the puncture itself. Foote²⁹ says that the presence of bright unclotted blood usually means a faulty technic. Roberts⁹ uses a 20 gauge needle, one inch long, with a stilet to make the puncture. He states that blood from trauma invariably streaks the fluid while that from a pathological condition gives a uniformly bloody fluid. Another important point is found in the fact that the blood from trauma rapidly clears after the first few drops while that due to a pathological condition remains constantly bloody.

Traumatic hemorrhage may be divided into, (1) massive, and (2) delayed. The massive shows symptoms immediately after delivery. There is a blueness, difficult breathing and tremors in the arms and legs. Most of these cases die but if they recover paralysis, epilepsy or mental retardation may be the result. The delayed type does not present symptoms until 3 to 5 days after delivery. On the third to fifth day there is a disinclination to nurse, possibly intermittent cyanosis, a distressing cry and often a protruding tongue. Hemorrhage in the cranium may be present both as a result of trauma and hemorrhagic disease. Injection is indicated to control the clotting and to replace a heavy loss of blood. Lumbar puncture is indicated, first, as a diagnostic procedure, and second, as a therapeutic measure. Grant³⁵ and Munro and Eustis¹⁸ have proposed a pressure of 18 mm. or more as a height necessary for drainage and withdraw sufficient fluid to reduce the pressure to one-half. This may be repeated at 8 to 12 hour intervals.

Types. It is difficult to determine on the spur of the moment whether the hemorrhage is infratentorial or supratentorial in type. It is

very important to recognize the type as early as possible. Jacobs¹⁶ states that Schaefer, in 1921, found in 680 autopsies 140 definite hemorrhages, 114 being supratentorial and 9 infratentorial. (Table 4 shows the differentiation of these two types.)

TABLE 4. *Differentiation of the two types of intracranial hemorrhage*

Supratentorial type	Infratentorial type
1. Fontanel tense or bulging.	1. Fontanel soft and normal.
2. Cyanosis occurs late in the condition.	2. Cyanosis occurs early in the condition.
3. Great restlessness, continuous cry or whine.	3. Listless, depression and apathy.
4. Usually spastic paralysis.	4. Convulsive respiratory seizures.
5. Spastic convulsions. Rigidity of neck.	5. May be cranial nerve paralysis but somatic motor nerve involvement unusual.
6. Pulse little disturbed.	6. Pulse usually slow and bounding; later rapid and feeble.
7. Spinal fluid usually only streaked with blood but the pressure is increased.	7. Spinal fluid shows uniform mixture of blood with fluid, rather a prune juice color and pressure increased.

Infratentorial type. It is in this type that the most beneficial results are gotten by lumbar puncture. Brady,³⁶ Sharpe²⁴ and others have frequently demonstrated excellent results by relieving the pressure, draining at 6, 12, or 24 hour intervals until a clear fluid and near normal pressure as shown by the manometer are observed. In many cases one drainage suffices and seldom more than three are needed.

Supratentorial type. In many of these types lumbar puncture does not seem to yield the desired results as there is failure to drain by this route, the fluid where pressure is greatest being above the tentorium. Brady³⁷ has suggested drainage by cisterna puncture and secured good results.

when skillfully done save lives and many of the remote bad effects that would occur. In doing any of these operations the greatest care should be used with the least disturbance to the infant's quiet in their performance.

The infant should be wrapped and pinned in a proper blanket without clothing and the bath omitted during the period of attack and until its condition permits handling. It should be placed and left in its crib or basket, not to be picked up for any reason, even to nurse. It should be fed expressed breast milk in proper quantities with a Breck feeder or medicine dropper. Sufficient water should be given in like manner. When being examined by the physician, doing a transfusion or lumbar puncture, the infant should be left in its crib and great care used in turning.

Time does not permit going into the technic of the operations mentioned in this paper. The interested reader is referred to Table 5 for the original technic by its author.

SUMMARY AND CONCLUSIONS

1. Monthly examinations and supervision of the expectant mother offer the best means of prevention of intracranial hemorrhage.

2. Better natal care, wise judgment in the use of pituitrin and forceps, and better methods of handling the asphyxiated and malpositions offer great opportunity for preventing intracranial hemorrhage.

3. Routine taking of the coagulation and bleeding time on the third or fourth day will help to make an early diagnosis of the hemorrhagic disease type.

4. Transfusion of whole blood should be

TABLE 5. *References for the technic for operations in intracranial hemorrhage in new-born*

1. Coagulation and bleeding time	F. C. Rodda	Am. J. Dis. Child. 19 :268 (Apr.) 1920
2. Subcutaneous injection of whole blood	J. A. Foote	Dis. of New-born, 1926, p. 20
3. Transfusion whole blood via umbilical vein	J. B. Sidbury	Am. J. Dis. Child. 25 :295 (Apr.) 1923
4. Transfusion whole blood via jugular vein	F. H. Falls	J. A. M. A. 80 :679, 1923
5. Transfusion whole blood intraperitoneally	C. G. Grulee	J. South. M. A. 20 :1 (Jan.) 1927
6. Transfusion via longitudinal sinus	H. F. Helmholtz	Am. J. Dis. Child. 10 :194 (Sep.) 1927
7. Lumbar puncture	M. H. Roberts	J. A. M. A. 85 :501, 1925
8. Cisterna puncture	J. M. Brady	J. Missouri M. A. 22 :359, 1925

Subtemporal decompression. When the third attempt at drainage has failed to give results the decompression operation should be considered and when possible a skilled operator called in to determine and do the operation without delay.

General care. Grulee³⁸ has expressed very pessimistic views on lumbar puncture, blood transfusion, and the subtemporal decompression operation. He believes that the general care of the patient gives the best results. Certainly this is a most important part of the treatment. Transfusion, lumbar puncture, cisterna puncture and even subtemporal decompression

used in cases of the hemorrhagic diathesis and to replace lost blood to the infant.

5. Lumbar puncture offers the best means for diagnosing and treating the infratentorial type.

6. Cisterna puncture may be necessary for proper drainage in the supratentorial type.

7. Subtemporal decompression operation must be resorted to where failure to get results occurs after three attempts at drainage.

8. General care with absolute rest in the crib, feeding with a Breck feeder of expressed breast milk, and sufficient water offer a vital necessary means for a cure.

REFERENCES

1. Womack, N. C.: Intracranial Hemorrhage in the New-Born, South. M. J. **20**:183 (March) 1927.
2. Knox, J. H. M.: The New-Born From a Public Health Standpoint, South. M. J. **17**:382 (June) 1924.
3. Litzenberg, J. C.: Better Newly Born Pediatrics, South. M. J. **17**:378 (June) 1924.
4. Heunekens, E. J.: Care of the New-Born in the First Weeks of Life, J. A. M. A. **81**:625, 1923.
5. Foote, J. A.: Infant Mortality in the First Month of Life, J. A. M. A. **81**:1351, 1923.
6. Ehrenfest, H.: The Causation of Intracranial Hemorrhage in the New-Born, Am. J. Dis. Child. **26**:513 (Dec.) 1923.
7. Warwick, M.: Necropsy Findings in the New-Born, Am. J. Dis. Child. **21**:498 (May) 1921.
8. Sharpe, Wm., and MacLaire, A. S.: Intracranial Hemorrhage in the New-Born, J. A. M. A. **86**:335, 1926.
9. Roberts, M. H.: The Spinal Fluid in the New-Born, J. A. M. A. **85**:501, 1925.
10. Gordon, A.: Meningeal Hemorrhage in the New-Born and their Remote Consequences, Am. J. Dis. Child. **27**:304 (April) 1924.
11. Schwartz, P.: Traumatic Birth Injury of the Brain, Abstr. Prac. Med. Series (Gynec. & Obst.) Chicago, The Year Book Publishing Company, 5:403, 1923.
12. Warwick, M.: Cerebral Hemorrhage of the New-Born, Am. J. Med. Sc. **20**:18 (July) 1920.
13. Foote, J. A.: The Hemorrhagic Tendency as a Frequent Cause of Cranial Hemorrhage in the New-Born, Am. J. Dis. Child. **20**:18 (July) 1920.
14. Rodda, F. C.: The Coagulation Time of the Blood in the New-Born, J. A. M. A. **75**:453, 1920.
15. Green, R. M.: Further Experience in the Treatment of Intracranial Hemorrhage in the New-Born, Boston M. & S. J. **174**:947, 1916.
16. Jacobs, A. G.: Hydrocephalus Following Intracranial Hemorrhage, South. M. J. **19**:671 (Sept.) 1926.
17. Pounders, C. M.: Intracranial Hemorrhage in the New-Born, J. Oklahoma M. A. **18**:126 (June) 1925.
18. Munro, D. and Eustis, R. S.: The Diagnosis and Treatment of Intracranial Hemorrhage in the New-Born, Am. J. Dis. Child. **24**:279 (Oct.) 1922.
19. Ottenberg, R.: The Etiology of Eclampsia, J. A. M. A. **81**:297, 1923.
20. Speidel, E.: Prenatal Care in Obstetrics in the South, South. M. J. **18**:107 (March) 1925.
21. Hirst, B. C.: The Future of Obstetrics as a Specialty and in General Practice, South. M. J. **18**:43 (Jan.) 1925.
22. Young, Wm. J., and Likins, C. H.: Syphilitic Prenatal Treatment, South. M. J. **18**:818 (Nov.) 1925.
23. Hall, E. R.: Treatment of the Syphilitic Expectant Mother, South. M. J. **18**:760 (Oct.) 1925.
24. Royster, H. A.: Surgical Sense, South. M. J. **16**:24 (Jan.) 1923.
25. Blanco, V. L., and Paperini, H.: Meningeal Hemorrhage in the New-Born, J. A. M. A. **87**:126, 1926.
26. Oberback, A.: Alpha-lobelin in the Treatment of Asphyxia Neonatorum, Prac. Med. Series (P-d.) Chicago, The Year Book Publishing Company, 4:8, 1925.
27. Foote, J. A.: The Diagnosis and Treatment of Intracranial Hemorrhage in the New-Born, South. M. J. **17**:386 (June) 1924.
28. Rodda, F. C.: Studies with a New Method for Determining the Coagulation Time of the Blood in the New-Born, Am. J. Dis. Child. **19**:268 (April) 1920.
29. Foote, J. A.: Intracranial Hemorrhage in the New-Born, Diseases of the New-Born, Philadelphia, J. B. Lippincott Company, 1926, p. 20.
30. Sidbury, J. B.: Transfusion Through the Umbilical Vein in Hemorrhage of the New-Born, Am. J. Dis. Child. **25**:295 (April) 1923.
31. Falls, F. H.: Blood Transfusion by the Citrate Method in Hemorrhage of the New-Born, J. A. M. A. **80**:679, 1923.
32. Siperstein, D. M., and Sansby, J. M.: Intraperitoneal Transfusion with Citrated Blood, Am. J. Dis. Child. **25**:107 (Feb.) 1923.
33. Grulee, C. G.: The Intraperitoneal Transfusion of Blood in Infancy and Childhood, South. M. J. **20**:1 (Jan.) 1927.
34. Sharpe, Wm.: Intracranial Hemorrhage in the New-Born, J. A. M. A. **81**:426, 1923.
35. Grant, F. C.: The Diagnosis and Treatment of Cerebral Injuries in the New-Born, Abstr. International Survey of Pediatrics, 5:169 (March) 1923. American Institute of Med., 13 East 47th Street, New York City, N. Y.
36. Brady, J. M.: Lumbar Puncture in Meningeal Hemorrhage of the New-Born, J. A. M. A. **71**:347, 1918.
37. Brady, J. M.: Cisterna Puncture in Intracranial Hemorrhage of the New-Born, Tr. St. L. Ped. Soc., Am. J. Dis. Child. **28**:122 (July) 1924. Also J. Missouri M. A. **22**:359 (Sept.) 1925.
38. Grulee, C. G.: Treatment of Intracranial Hemorrhage in the New-Born, J. A. M. A. **85**:336, 1925.

SIMPLE COLOR TESTS FOR BROMINE IN BODY FLUIDS

In the simple specific color test described by George H. Belote, Ann Arbor, Mich. (*Journal A. M. A.*, May 28, 1927), the presence of even minute amounts of bromine is at once indicated by a rapid change in color from the original yellow to a bright pink on the paper. The presence of chlorine and iodine in no way interferes with the detection of bromine in this test. A modification of the test, which has a suggestive importance as a possible quantitative test, has been tried and found successful, but not more delicate. During the past year Belote has succeeded in demonstrating bromine with this test in several cases in which a diagnosis was otherwise difficult or impossible at the time. The rapidity with which this test can be elicited is indicated by the fact that it was found positive in urine voided fifteen minutes after the oral administration of 10 grains (0.65 Gm.) of sodium bromide. Bromide added to the urine directly can be determined as bromine in dilutions of 1:40,000; in distilled water, in 1:80,000; in 5 per cent sodium chloride solution in 1:100,000, and in 20 per cent sodium chloride solution in 1:200,000 dilutions. From the last two figures it is evident that instead of interfering with the detection of bromine the associated chlorine makes the test more delicate. In body fluid bromine was easily detected in sweat, spinal fluid, saliva and gastric contents, but found with greater difficulty in the blood. Washed red blood cells give a negative test, and serum obtained by centrifugalization gave a definite trace of bromine in the case of the patient with a toxic bromide psychosis.

ANTIMONY AND POTASSIUM TARTRATE IN CHANCROIDAL INFECTIONS

Alfred E. Jones, Chicago (*Journal A. M. A.*, May 28, 1927), concludes that the period of convalescence or hospitalization of patients suffering from chancroidal infections and their complications will be reduced at least 50 per cent if, in addition to local treatment, antimony and potassium tartrate is administered intravenously. The pain, discomfort, discharge, edema and other disagreeable symptoms will be perceptibly lessened or almost entirely disappear after the first few injections. A 1 per cent solution of antimony and potassium tartrate is used. An initial dose of 3 cc., increasing 1 cc. with each dose up to 10 cc., with the administrations at four-day intervals, seems to be amply sufficient. Of the twenty-seven cases treated at the Mercy Hospital Dispensary, twenty-three, or 85 per cent, showed excellent results. Serious reactions were not encountered, although 30 per cent of the patients showed milder reactions, such as coughing, salivation and vomiting, all of which cleared up in a few hours. This is a higher percentage of reactions than is reported by most authors.

TREATMENT OF LOBAR PNEUMONIA IN GENERAL HOSPITAL

Fifty-six patients with lobar pneumonia were treated by a regimen that included the administration of the pneumococcus antibody solution. No constant specific therapeutic effect was observed. Here and there an isolated observation pointed to the possibility of a specific effect. These results were independent of the nonspecific chill, and while they are encouraging, Leo Kessel and Harold T. Hyman, New York (*Journal A. M. A.*, May 28, 1927), feel that they are not sufficient to warrant the advocacy of the routine use of this substance in the treatment of lobar pneumonia in a general hospital.

THE JOURNAL

OF THE

Missouri State Medical Association

MARCH, 1928

EDITORIALS

COLUMBIA BECKONS

Much more than the usual interest manifest at this time in the preparations for the Annual Meeting is clearly evident as arrangements go forward for the 71st Annual Session, May 14-17, at Columbia. This unusual enthusiasm among the members is very gratifying to the Committee on Arrangements, the Program Committee and the officers of the State Association and the Boone County Medical Society, who are exerting their very best efforts to provide social affairs and a scientific program that will bring many members to the meeting. The excellence of the preparations and the extraordinary response of the membership give promise of the most impressive meeting in the history of the Association. Undoubtedly the names of the guests of the Association will attract a large number of our members who are anxious to hear them describe the work for which they have become famous and about which we know for the most part only by reading their articles. These guests and the topics which they will discuss are:

Dr. J. C. Bloodgood, Baltimore, Md., "What Every Doctor Should Know About Cancer."

Dr. Thomas S. Cullen, Baltimore, Md., "Uterine Hemorrhage."

Dr. Elliott P. Joslin, Boston, Mass., "The Dangers of the Diabetic."

Dr. F. M. Pottenger, Monrovia, Calif., "The Early Diagnosis of Tuberculosis."

Dr. Frank Smithies, Chicago, Ill., "A Practical Method for Examination of Patients Affected With Intestinal Stasis; With Suggestions for Treatment."

The Program Committee has deemed it wise to present a number of subjects in symposiums and therefore has prepared the following: Symposium on Arthritides; Symposium on Backache; Symposium on Headache; Symposium on Skin Diseases.

This does not mean that individual contributions have been neglected. In fact, the Program Committee has arranged the hours so that the sessions shall begin at 8:30 in the morning instead of nine o'clock as in former

years, thus permitting the appearance of more speakers without crowding the time for discussion. The Committee has also endeavored to arrange the hours for the Wednesday session so that there shall be no conflict between the meeting of the House of Delegates and the General Meeting and thus remove what in past years has always been a serious interruption of the scientific session on that day.

Through the cooperation of the Postgraduate Committee and the courtesy of our guests, a session has been added for Friday, May 18, which we hope will prove to be a permanent arrangement as it affords a splendid opportunity for highly interesting demonstrations. On Friday, May 18, the local committee on arrangements will provide clinical material for demonstrations by Drs. Bloodgood, Cullen and Joslin, assisted by some of our own members selected by the Postgraduate Committee.

Night sessions will be held on Wednesday and Thursday. At the session on Wednesday night President Nifong will deliver his Annual Address and some of our guests will speak. On Thursday night there will be a public meeting and our guests will be afforded an opportunity to speak on public health topics assisted by some of our members. Tuesday night has been reserved for alumni dinners, the secretaries' dinner, and other social affairs.

These are some of the high spots in the proposed program as formulated at the present time but we invite the members to read the announcement of the program on page 125. While some change may be necessary before arrangements have been completed every one whose name appears on the preliminary program has given his assurance that he will be present to read his paper.

Columbia beckons every member to the coming session of our Association. We believe the scientific program will satisfy the expectations of the most critical person and we know that the Boone County members will make your visit one to arouse pleasant memories for many years to come.

The following committees have been appointed to manage the affairs of the Columbia meeting.

GENERAL COMMITTEE ON ARRANGEMENTS

A. R. McComas, Surgeon, Chairman; W. M. West, Monett; W. L. Allee, Eldon.

LOCAL COMMITTEE ON ARRANGEMENTS

Dudley A. Robnett, Chairman

Hugh P. Muir, Secretary

Committee on Meeting Place: Dudley A. Robnett, M. P. Ravenel, C. M. Sneed and F. G. Nifong.

Chairman; R. S. Battersby, F. C. Suggett and W. E. Belden.

Committee on Exhibits: C. M. Sneed, Chairman; W. R. Shaefer, F. E. Dexheimer, F. B. Williamson and H. B. Pryor.

Committee on Hotels: S. D. Smith, Chairman; D. G. Stine, W. A. Norris, Lloyd Simpson and C. L. Lavender.

Committee on Golf: W. P. Dysart, Chairman; A. W. Kampschmidt.

Committee on Auto Transportation: E. D. Baskett, Chairman; H. P. Muir, W. O. Fischer and D. S. Conley.

Committee on Reception: M. P. Ravenel, Chairman; M. P. Neal, F. G. Nifong, Guy L. Noyes, A. R. McComas, Sturgeon, and O. B. Mayes, Centralia.

Committee on Entertainment: M. P. Neal, Chairman; Guy L. Noyes, C. M. Sneed, D. S. Conley and E. D. Baskett.

HOTEL RATES FOR THE COLUMBIA MEETING

Daniel Boone Tavern. Headquarters: 62 rooms, for one person \$1.50 to \$2.50; 49 rooms, for one person \$2.75 to \$3.00; 11 rooms, for one person \$3.50; 5 rooms, for one person \$4.00; 2 rooms, for one person \$4.50; 2 rooms, for one person \$5.00.

Columbian Hotel: \$1.25 to \$1.75, one person.

Oak Hotel: \$1.25, one person.

Additional persons in room will be charged proportionately. It is expected that members will be willing to "double-up" as we anticipate crowding the hotel accommodations.

In addition to the above hotels there are several very well arranged tourists' camps having rooms with shower bath and other convenience.

Members should make their reservations as soon as possible direct with the hotel or write Dr. D. A. Robnett, Columbia, chairman of the local committee on arrangements, who will see that every member is comfortably housed during the session.

FOURTH ANNUAL MEETING WOMEN'S AUXILIARY

Mrs. W. M. Bickford, Marshall, President of the Women's Auxiliary, has sent us the preliminary program for the Auxiliary and it appears in that department of *THE JOURNAL* on page 134. The principal meetings of the Auxiliary will be held in the Missouri State Teachers Association Building, Columbia. The hotel headquarters will be the Daniel Boone Tavern.

HEALTH CONDITIONS BEST ON RECORD

In his annual report to Congress Dr. H. S. Cumming, Surgeon-General of the United States Public Health Service, reviews world health conditions and summarizes his work. This report marks the 129th year of the existence of the Service. The Surgeon-General says that the knowledge of the prevalence of epidemic disease and the health of populations throughout the world made possible by the modern developments in public health organization, both national and international, is of great importance in preventing the introduction of communicable disease into this country from abroad. This work involves both control at domestic ports and medical inspections at certain foreign ports.

Health conditions in general were better during the year ended June 30, 1927, than for any previous year on record. The health of the people of the United States was good as compared with that of former years.

It is interesting to note that with the advancement of modern sanitary science, yellow fever has been confined to one section of Africa. A few cases of influenza reported in this country were mild. Typhoid fever declined, and the case and death rates for diphtheria were the lowest ever recorded. The decrease in diphtheria is probably due to the use of antitoxin and to toxin-antitoxin immunization.

The death rate from tuberculosis declined as did that of heart disease, diabetes, nephritis and smallpox. The latter disease was most fatal on the Pacific Coast. Two cases of plague were apprehended on board a ship at the quarantine station at New Orleans, and seventeen cases of smallpox and two cases of leprosy were discovered at domestic quarantine stations. Tularemia, discovered by Dr. Edward Francis, Surgeon in the United States Public Health Service, in 1920, was found to extend to ten additional states during the year. It now extends over thirty-eight states, the District of Columbia and Japan. No cases of cholera, yellow fever or bubonic plague gained entrance to this country.

The infant mortality rate has been decreasing for many years and studies on narcotic drug addiction shows a reduction in the number of addicts. Investigations of more effective methods of the prevention and treatment of syphilis and gonorrhea were made at the marine hospital at New York during the year.

The Public Health Service aided the local authorities in the localities of Florida devastated by the hurricane in September, 1926, and cooperated with the states and the American

Red Cross in the emergency relief work in the Mississippi River flood area.

The Surgeon-General commends a bill introduced in the last Congress, and now before the present session of the Congress, for the coordination of public health activities of the Government which provides for the President to transfer to the Public Health Service any executive agency (other than those in the War and Navy Departments and in Veterans' Bureau) when such transfer is deemed to promote greater efficiency in the conduct of public health work. The bill also provides for the extension of research through an enlarged hygienic laboratory and the coordination of the research work of public health officers and scientific workers. The Surgeon-General believes that such a coordination of public health activities would prove a decisively forward step in public health in the United States.

DOUBLE MONSTERS

We have in this issue of *THE JOURNAL* a description of a double monster reported by Drs. W. R. Gaddie and John L. Sims* that should be of great interest to our readers. The pictures are good, descriptions are accurate and the work has been thoroughly done.

These cases always revive some interesting speculations. Why are most monsters females? Why the hydramnios? Why, when we find one defect are we apt to find others in remote parts of the body?

The idea that the mental state of the mother during her pregnancy has something to do with the causation of monsters has been abandoned by the scientific world but not by the public. A collection of the weird beliefs still existing would make interesting reading. Alcoholism and syphilis, in the light of our newer knowledge, no longer are considered causative factors.

The mechanism of the birth of double monsters, especially of the heads, is of great interest. Since it is necessary for one head to snug against the neck of the other child, it can readily be seen that a breech presentation is very desirable. Almost all double monsters that have survived have been delivered breech first.

When these women go into labor with a head presenting, the first head usually delivers in the usual manner. The second head, however, usually bends away from the true pelvis, making delivery impossible. The case here described was one in which the second head, fortunately, took the only position that made the birth possible. It is also very probable that trauma to the second head, while being squeezed against the first neck, was the cause of death.

SOUTHEAST MISSOURI HOSPITAL

The dedication of the Southeast Missouri Hospital at Cape Girardeau on January 8 was a memorable occasion for the people of Southeast Missouri and for the medical profession in that section of the state.

The building is a four story structure representing an investment of \$150,000. On the ground floor there is an emergency operating room and X-ray rooms elaborately equipped with the latest appliances for the application of the roentgen ray. Rooms for patients are distributed on the three upper floors. The private rooms are generously furnished with every convenience for the comfort and welfare of the patient. There are several rooms with private bath, others with lavatory, while the wards are capable of caring for eight patients each. Sun parlors and recreation rooms are provided. The signal system is of the latest design with the lights in the patients' rooms so constructed that illumination at night is thrown upon the lower part of the room leaving the patient and the upper part unflooded by the glare of the light. Throughout, the institution is provided with every appearance and convenience of modern hospital construction.

A nurses' home is adjacent but until the hospital is filled with patients the nurses will occupy the second floor of the hospital building. For the present there is a staff of six graduate nurses and four undergraduate nurses.

Dr. B. A. Wilkes, superintendent of the Missouri Baptist Sanitarium at St. Louis and president of the Mid-West Hospital Association, was the principal speaker at the dedication. He complimented the people upon their enterprise in erecting such a magnificent building and declared that he had never seen a better constructed hospital during his travels over the country inspecting numerous institutions of a like character. Other speakers were: Mr. M. E. Leming, chairman of the building committee, who gave a brief history of the organization and financing of the project; Mr. W. C. Bahn, vice president of the hospital board; Mr. R. L. Dearmont, member of the board of trustees; Mr. P. J. Hoener, of St. Louis, the architect, and Dr. D. H. Hope, chief of the medical staff.

The medical staff is composed of the following: Dr. D. H. Hope, chief; Drs. H. L. Cunningham, N. F. Chostner, J. W. Berry, O. L. Seabaugh, W. A. Schoen, G. B. Schulz, Paul Williams, M. H. Shelby, W. E. Yount, C. A. W. Zimmermann, W. N. Howard, G. W. Walker and William H. Wescoat.

* Page 107.

TO ABATE A NUISANCE

Relief from one of the worst nuisances of a physician's mail—and the average doctor's mail contains much to annoy him—is promised in a bill introduced in Congress by Representative Watson of Pennsylvania. Congressman Watson's Bill would set maximum penalties for sending unsolicited merchandise through the mail for the purpose of sale.

Doctors suffer peculiarly from the pest of unsolicited neckties, socks, and so on, which this bill is intended to abate. They are on everybody's mailing list. Apparently the "M.D." after their names, by what devious reasoning we do not know, is taken as prima facie evidence that they have a lot of money to throw away, and the obnoxious gentlemen at the other end of the mailing line may figure that a physician is too busy to do anything but "keep the ties and remit \$1."

No physician, however, need spend more time on this annoyance than necessary to chuck merchandise, letter and all into the waste basket. The Better Business Bureau of St. Louis and Kansas City recently told how one Missouri doctor had his name removed from a "sucker" list. He received a box of neckties with instructions to return them or remit \$1. Instead he mailed the senders of the ties a box of pills with a letter saying he would credit them \$1 for the ties, but the pills were worth \$2 and extremely beneficial in cases of "gall." To their second request to return the ties he replied that he must have \$2.50 for that service, since his fee for leaving the office was \$2.50 and it was half a block to the nearest mail box. The sender of the ties gave up and took his name off the list.

A house using such selling practices would have one fine time collecting in court, but Congressman Watson's bill, if passed, will stop the practice altogether. Physicians who wish to avoid the bad temper caused by receiving one "follow-up" letter after another may protect their mental comfort by writing their Congressman to support H. R. 351, prohibiting the sending of unsolicited merchandise through the mails. The bill follows:

H. R. 351

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 5, 1927

MR. WATSON introduced the following bill; which was referred to the Committee on the Post Office and Post Roads and ordered to be printed

A BILL

To prohibit the sending of unsolicited merchandise through the mails.

1 *Be it enacted by the Senate and House of*
2 *Representatives of the United States of Amer-*

3 *ica in Congress assembled, That hereafter it*
4 *shall be unlawful for any person to send un-*
5 *solicited merchandise through the mails for*
6 *the purpose of sale to the addressee and such*
7 *merchandise is hereby declared to be non-*
8 *ailable. A person who knowingly deposits*
9 *or causes to be deposited for mailing or de-*
10 *livery any such merchandise shall be fined*
11 *not more than \$500 or imprisoned not more*
12 *than three months, or both.*

13 Sec. 2. The term "merchandise" when
14 used in this Act means mail matter of
15 the first, third, and fourth classes.

1 The term "person" when used in this Act
2 means an individual, partnership, corporation,
3 or association, except the American Red
4 Cross, the National Tuberculosis Society, or
5 any religious, charitable, or eleemosynary
6 society or institution.

NEWS NOTES

Dr. L. J. Wolfort, St. Louis, has been appointed to the Missouri Nurse Examiners Board by Gov. Baker, to succeed the late Dr. E. W. Saunders, St. Louis.

A doctor's problems in Siam and the experiences of 20 years in the Orient were described in addresses at Washington University School of Medicine and the Second Presbyterian Church, St. Louis, on Jan. 27 by Dr. Edwin Cort, medical missionary.

Friends of Dr. Frank W. Gale, Bismarck, will learn with deep regret of the death of his son, Dr. William M. Gale, a dentist, practicing at Gainesville, Texas. He was only twenty-five years old when he died from double pneumonia on January 29, 1928. He was graduated from the St. Louis University Dental School in 1925 and went to Gainesville in January, 1927, where he had established a splendid practice and was very active in public health work. Before going to Gainesville he practiced at Louisiana, Missouri, for one year.

Plans for the addition of a \$110,000 nurses' building and a \$15,000 school building to the Shriners' Hospital for Crippled Children in St. Louis were submitted to the National Governing Board of Shriners' Hospitals, which held its main quarterly meeting in St. Louis February 10-13. The new nurses' home will be a two-story brick structure equipped with swimming pool and solarium. Nurses and attendants now are housed in an old residence near the hospital and the children's schoolrooms are in the hospital basement. The Shriners operate ten permanent and five mobile hospitals for crippled children in the United States and Canada.

Dr. Thomas Parran, Jr., Washington, D. C., Assistant Surgeon-General of the United States Public Health Service, discussed the medical angle in a symposium at the St. Louis Medical Society, Feb. 7, on medical, military and sociological aspects of the "social diseases." Dr. Parran pointed out needs of up-to-date instruction, adequate clinical facilities and extensive research.

A department for the treatment of cancer by deep X-ray therapy is to be established at St. Luke's Hospital, St. Louis, with the \$25,000 given by Seeley Mudd and Harvey Mudd II in memory of their father, Seeley Mudd, of California. The gift was made with the provision that it be used in whatever way the late Mr. Mudd's brother, Dr. Harvey G. Mudd, chief of staff at St. Luke's, deemed best for the hospital.

A conference on rheumatic diseases is to be held at Bath, England, Thursday and Friday, May 10 and 11, 1928. Sir George Newman, Chief Medical Officer of the British Ministry of Health, will act as president of the conference. There will be three sessions. (1) Social Aspects, presided over by Lord Dawson, of Pennsylvania, Physician to H. M. King George; (2) Causation, presided over by Sir Humphry Rolleston, Regius Professor of Physic, University of Cambridge; (3) Treatment, presided over by Sir E. Farquhar Buzzard, Regius Professor of Medicine, University of Oxford. The local Hon. Medical Secretary is Dr. Vincent Coates, 10, Circus, Bath, England.

The Kansas City Alumni Chapter Phi Beta Pi medical fraternity will hold its Founders' Day dinner dance at the President Hotel, Kansas City, Missouri, Saturday, March 10 at 7:00 p. m. Dr. Lawson G. Lowrey, New York City, Supreme Secretary, will be present with other prominent representatives of the fraternity. Preparations are being made to entertain between four and five hundred guests. Following the dinner there will be dancing in the Congress Room of the hotel, the music being furnished by a ten piece orchestra. For those who wish to play cards there will be tables in the Assembly Room with appropriate prizes for the winners. The price of the dinner dance is \$3.00 to members of the Alumni, but a special price of \$2.50 is being made to hospital interns and members of the active chapter. Every member of the Phi Beta Pi fraternity in Missouri is cordially invited to attend.

Dr. George C. Lee, acting medical director of Leeds Sanitarium in Kansas City since the resignation of Dr. Herbert M. Mantz last November, was appointed director of the institution last month by the Health Director, Dr. Ernest S. Cavaness, and Miss Nelle Roberts, former matron, was reappointed matron. Dr. Lee's work as acting director had attracted favorable attention. His appointment as director and the reappointment of Miss Roberts are regarded as a step toward the restoration of the high standards enjoyed by the sanitarium previous to a political turnover in 1926.

The \$100,000 offer of William Lawrence Saunders, of New York, for suggestions toward the prevention and cure of cancer has been extended indefinitely. Dr. George A. Soper, of New York, Secretary of the American Society for the Control of Cancer, in making the announcement, reported that 3,158 suggestions had been received from 32 different countries. He said that promising suggestions were received just before the contest was to have closed, February 1. In view of what already is known of cancer it is not discouraging that no suggestion worthy of the award should have been obtained within the time limit. It is rather encouraging that any idea should have been elicited of such promise as to warrant holding the offer open.

A \$1,000,000 foundation for studying the etiology, prevention and treatment of cancer, Bright's disease and heart diseases is to be established in the University of Chicago Department of Medicine through the generosity of Mr. and Mrs. Albert D. Lasker, of Chicago. When and if those diseases, which cost 1,285,927 lives in the United States in 1926, are measurably controlled, the scope of the Lasker Foundation is to be extended to others which focus on the period after 50.

Thus medical science, which has decimated the infant death rate and multiplied the life expectancy of youth, is impelled to turn its searchlight on the trials of age. Most of us have learned at 20 that few men live long enough to know anything, and if they do its value to their fellows is nullified by the feebleness and crotchets of the unhealthfully old. The hot prejudices of youth are followed close by the sclerotic prejudices of age. If, through the fine gift of the Laskers or by any other means the wisdom of years can be coupled with the serenity and vigor of hale and hearty old age the racial I. Q., to say nothing of racial happiness and the sympathy between youth and age, should be doubled.

The following articles have been accepted for New and Nonofficial Remedies:

Hermes—Groves Dairy Co.

Bacillus Acidophilus Milk—Hermes

Lederle Antitoxin Laboratories

Anterior Pituitary Desiccated—Lederle

Posterior Pituitary Desiccated—Lederle

Whole Pituitary Desiccated—Lederle.

Eli Lilly & Co.

Iletin (Insulin—Lilly) U-100, 10 cc.

Liver Extract No. 343

H. K. Mulford Co.

Sterile Solution of Dextrose (d-Glucose)

50 cc. Double End Vial

Sharp & Dohme

Hexylresorcinol Solution S. T. 37

Professor Julius Bauer, of Vienna, will be the guest of the American College of Physicians at its annual session in New Orleans, March 5-9. He will deliver several lectures at the meeting and also the Convocation Oration.

Professor Bauer's noteworthy contributions to medical literature are his lectures on "Constitution and Inheritance for Students and Physicians"; his monograph with Dr. Conrad Steins on "Constitutional Pathology as Illustrated by Otology"; his monumental book on "The Constitutional Disposition of Internal Disease" and his latest work on "Internal Secretions." His coming visit to this country should give many physicians an unusual opportunity to learn at first hand his now much-discussed ideas of constitutional pathology and the endocrine glands.

The thirteenth annual convention of the Catholic Hospital Association of the United States and Canada and the second annual Hospital Clinical Congress of North America will be held in the Cincinnati Music Hall, Cincinnati, Ohio, June 18-22. The fourth annual convention of the International Guild of Nurses will be held at the same time at night meetings. This will be one of the largest and most important hospital meetings of the year and will comprise general scientific meetings, special clinics or demonstrations of hospital departments, and three hundred special commercial and educational exhibits. Outstanding authorities in medicine, surgery, pathology, nursing, dietetics and hospital administration, architecture and engineering will lecture and demonstrate in clinics representing the various departments of the modern hospital. Dr. John R. Hughes, M.D., dean of the College of Hospital Administration, Marquette University, Milwaukee, Wisconsin, is general chairman of the convention and congress.

The theory has cropped up again, this time in West Virginia, that X-ray removal of the thymus in adults would eradicate criminal tendencies. The Associated Press relates that a Dr. R. J. Hersey, of Wheeling, on observing the photographs of the faces of Henry Judd Gray and Mrs. Ruth Snyder, perceived "that the presence of this gland caused them to slay the woman's husband."

This is not the first attempt to connect criminality with a hang-over of the thymus until maturity. So far as we know, however, no surgeon yet has discovered that an appendectomy ended the patient's taste for indigestibles, or that removal of vestigial tips on the ears inhibited an atavistic flair for climbing trees.

Citation of the Gray-Snyder murder brings us at once to the kernel of the matter. Is it possible that the learned West Virginian, hot on the trail of the endocrine that offends against morality, has aimed too high for the real culprit?

Over and above the great philanthropies of his lifetime, Edward Mallinckrodt left a lasting memorial in the bequest of his entire estate, estimated at \$2,000,000 or more, to the uses of science, religion, charity and education. The St. Louis chemical manufacturer, who pointed out in his will that he "long since" had made adequate provision for his family and friends, died February 1, in his eighty-third year.

Washington University and St. Luke's Hospital, recipients of large gifts during his life, were specifically mentioned in the will. He stipulated that, at the discretion of his son, Edward Mallinckrodt, Jr., the estate might now be divided, equally or unequally, between the two institutions; or that any part or all of it might be diverted to other philanthropies as the son elected. The balance or the total sum if the estate remains untouched during the son's life is to be divided equally between the university and the hospital.

The late Mr. Mallinckrodt had given hundreds of thousands to scientific education and charity. He and his son, who has been elected to the board of Washington University Corporation to succeed him, gave in the neighborhood of \$250,000 recently to establish a radiological institute for the university's school of medicine. Altogether his gifts to the medical school approximated \$1,000,000. He had given \$500,000 to Harvard University for its chemistry department and many thousands to St. Luke's Hospital.

His admirable bequest could have been left in no worthier or more capable hands, for Edward Mallinckrodt, Jr., already has given

strong and judicious financial support to the progress of science and education in this state. The greatness of the father's gift and the discernment of the son's disposition of it will assure that the family name be written across medical history in a monument that "Not marble, nor the gilded monuments of princes" shall outlive.

An executive budget bill, providing for the consolidation of related agencies under departments, uniform accounting and central purchasing of all supplies is being prepared by the Associated Industries for presentation in the next session of the legislature. A similar economy measure was generously supported in the last session and the present plan has been endorsed by several candidates for governor.

The Associated Industries have clearly indicated the basis for this measure in a recent analysis showing "even greater neglect" in expenditures for the six state hospitals and two soldiers' homes than in educational expenditures. An earlier bulletin had shown a decrease in the ratio of state expenditures for education to state expenditures for all purposes. The organization points out that the neglect can be remedied only by increased taxation or by cutting down the waste of uneconomical methods. A similar budget plan, it is said, reduced government costs in Massachusetts \$2,000,000 a year.

Analysis of expenditures in Missouri shows that the amount spent on state eleemosynary institutions in 1901-1902 was 15.16 per cent. of the total spent for all state activities. The Missouri State Sanatorium was not then in existence. For the biennium of 1913-1914, with the sanatorium included, the percentage spent for eleemosynary institutions had fallen to 14.46, and in 1925-1926 it was down to 4.6 per cent. of all expenditures. State eleemosynary expenditures grew from \$1,460,397.05 for seven institutions in 1901-1902 to \$2,706,021.73 for eight institutions in 1913-1914, and to \$4,635,286.62 for the eight in 1925-1926. It was pointed out that the increase seemed much larger than it was in fact for since 1913, 47 cents has been lopped from the purchasing power of the dollar. In the last 25 years eleemosynary expenditures have increased 217.40 per cent., while educational expenditures increased 354.35 per cent. "Use of these comparisons," added the report, "is not to show that education was getting more than the hospitals, but to show that the hospitals were getting even less consideration in the distribution of state funds."

The Brandon Hospital, Popular Bluff, is the latest addition to the hospital facilities of the profession in the southeast section of the State. The hospital was dedicated and opened for the reception of patients on January 22. It is a three story structure representing an investment of about \$100,000. It has a capacity of forty beds and is equipped in a manner to rival the facilities usually found in a modern 500-bed hospital. The basement contains the



dining room, kitchen, store rooms, garage and heating plant. Rooms for patients are located on the second and third floors, each room furnished in the most approved style for the convenience and comfort of the patients, including a telephone. The operating and delivery rooms are found on the third floor, each provided with exceptional natural lighting arrangement. A diet kitchen is provided on each floor. The lighting system has received special attention and is so arranged in the corridors that night lights will illuminate the floors leaving the upper part of the halls dark. The elevator system, of improved modern construction, facilitates the rapid and safe moving of patients. The signal system for calling the nurse is so arranged that a light appears over the door of the patient's room, over the desk of the floor nurse and in the reception room on the first floor. Dr. W. L. Brandon, the surgeon in charge of the hospital, began the construction of the building before the tornado last May but that disaster did not cause him to abandon the project.

Rice polish has high food value, we are told by the U. S. Department of Agriculture, and may well be used in many ways in the human dietary. The name might better be rice polishings, for this substance is the outer portion of the grain removed in the process of polishing brown rice to make it white. If the rice polish can be used in the diet, the full food value of this important cereal may be utilized. While

rice polish varies in composition, it is usually high in protein, fat, and minerals, especially iron. It may also be a source of vitamin B. For these reasons it is suggested as a cheap and palatable means of introducing these valuable nutrients into the diet, especially in the South where it is readily available. Recent studies on pellagra indicate that this disease is caused by the lack of a vitamin generally occurring with vitamin B. Though rice has not been studied as a source of this pellagra-preventive vitamin, all indications point to it as a likely source. This is an additional reason for using rice polish in the diet in regions where pellagra occurs. Rice polish is now available only during restricted seasons because it has a tendency to become rancid. Methods can unquestionably be found to prevent this rancidity. In the meantime, fresh rice polish is available when rice is being milled. Mills are polishing rice from late August to early May, the season when the diet is most likely to need the very food substances rice polish contains.

A group of leading Missourians met in St. Louis last month to organize the Eugene Field Foundation for the Relief of Crippled Children. Its immediate object is to raise \$100,000 by April 1 to meet the emergency caused by exhaustion of the \$35,000 state appropriation for the care of crippled children.

The Foundation is to include representative men and women from all parts of the state. Incorporation will be sought as a permanent organization to provide for the care, treatment and education of indigent child cripples, maintain hospital wards, provide appliances, create and collect funds and receive gifts and bequests for the crippled children of the state.

Last July the work was begun at the University of Missouri Hospital on the appropriation by the last legislature, but the funds, never sufficient to provide adequate facilities, will be depleted within a very few weeks.

The hospital began receiving patients on July 11, 1927, and within 90 days 36 children from 18 counties were admitted. Up to February 1, 70 children from 32 counties had been admitted. There are now 18 patients in the hospital. The records show that satisfactory progress has been made toward the improvement and cure of these little sufferers. The sponsors of the Eugene Field Foundation are tackling the emergency with a will and should be supported.

Albert D. Norton, former Judge of the St. Louis Court of Appeals, heads the Foundation. Its vice presidents are A. Ross Hill, of Kansas City, former president of Missouri University; State Commander Dan M. Nee, of

the American Legion, Springfield; Mrs. Elias Michael and Miss Florence J. Wade, of St. Louis. Mrs. C. W. Greene, child welfare chairman of the State Federation of Woman's Clubs, is secretary, and David Biggs, vice president of the National Bank of Commerce in St. Louis, is treasurer.

Dr. Rudolph Matas, New Orleans, was the guest of honor at a banquet tendered to him by the Orleans Parish Medical Society at New Orleans, December 20, 1927. The event, for it marks indeed an unforgettable period in the annals of Louisiana medicine, is commemorated in the February issue of the *New Orleans Medical and Surgical Journal* as the "Matas Number." On this occasion in his native town his confreres and former students poured upon him the perfume of their love and affection and admiration. It was a real "surprise party," no intimation of the purpose of the gathering having dawned upon Dr. Matas until the orations began. Called upon to respond to the unexpected tributes, Dr. Matas declared that he was the victim of a "formidable conspiracy actually organized by the Orleans Parish Medical Society, with its president as one of the chief ringleaders, to test not only my gastronomic capacity but to try my ability to stand on my feet in the face of a concentrated barrage of oratorical artillery with me as a target and the fire directed straight at my head and heart! And now that I have been emotionally shot to pieces, do you still expect the shattered fragments to speak?" With characteristic serenity, however, he "found his feet" and himself delivered a tribute to the medical profession of his state that glowed with love and reverence for the former giants in the profession, especially in the organized medical profession, and encouraged the younger men to preserve and augment the usefulness of the Orleans Parish Medical Society in its service to the profession and to the people. Undoubtedly one of America's most brilliant surgeons this occasion demonstrates that Dr. Matas is also one of medicine's most beloved Fellows.

OBITUARY

PAUL YOER TUPPER, M.D.

This memorial is a tribute to the passing of one of the most beloved physicians in Missouri if not indeed our best beloved. Others during the past generation in the St. Louis Medical Society and the Missouri State Medical Association may have surpassed Dr. Tupper in contributions toward the advancement of scientific medicine but, while the profession of medicine has undoubtedly ripened more than its full

quota of truly lovable characters, surely at no time during the past quarter century could any one of these have more deservedly borne that most honorable title—our Best Beloved!



PAUL YOER TUPPER, M.D.

ST. LOUIS

BORN MARCH 1, 1858. DIED FEBRUARY 1, 1928

When so fine a character dies it is fitting that we pause from our daily routine to pay our homage and respects. It is further to the advantage of those still carrying on that an honest attempt be made to analyze the numerous factors producing so outstanding a figure, because while superficially things change fast in this modern world many fundamental truths are eternal verities. While some modern skeptics question the literal truth of the biblical story of immortality none can justly doubt that the warmth-engendering influence of such a life extends beyond the grave and figuratively at least *ad infinitum*.

Born in Georgia, of fine mixed Scotch-Irish-English stock, Dr. Tupper was one of the younger sons of a Baptist minister's large family. The changes of his father's pastorates justified the son's varying descriptions of himself as a Georgia cracker, a South Carolinian and, had not modesty prevented, he might have added a descendant of the First Families of Virginia. Bubbling over with enthusiasm for all out-of-door sports, he was a very normal boy, except that he must have taken his father's harping preachments on character, sympathy and charity much more seriously than is the usual boy's wont. He made his own way through the Hospital College of Medicine in Louisville and immediately after graduation settled down in St. Louis.

In the days when the Mullanphy was one of the few hospitals in the state, the common grounds of "horse-sense" and kindly humor drew together young Tupper and the older Elisha Gregory by bonds that long outlasted the temporal life of the senior member. Dr. Gregory started his young protege on his prolonged serious work in the dissecting room, in those days one of the prerequisites for major surgery, and then gradually took him as assistant in the then too rare major surgical operations. Dr. Tupper while holding fast to all genuine values in the old methods was throughout the days of his life peculiarly able to appropriate such advances in the art as were fundamentally sound. In other words, his sympathy with youth was throughout so complete that mentally he never grew old.

This marked ability to select the fundamentals made Dr. Tupper throughout twenty-five years of active teaching service the most successful lecturer-demonstrator of practical anatomy St. Louis has ever known. With such a foundation it is only natural that he was an exceptionally competent surgeon. He considered a major surgical operation a sacred trust and was so bitterly opposed to clock-timed operations that if error crept in his work it was that of taking too much care and time. His recognition of his own limitations and the depth of his interest in the welfare of his patients are perhaps best illustrated by the fact that he frequently referred patients attacked by early malignancies calling for extensive block dissections to appropriate surgical specialists, or even to more daring younger general surgeons.

His intense loyalty to his chosen profession will be testified to, unanimously so far as I can find out, by every reputable member of organized medicine who in the hour of trial or tribulation called him into consultation.

Particularly the young man just starting to build his practice and the older man whose practice was beginning to slip had reason to bless his name. He assisted the younger one in gaining prestige and success and guarded the older one's practice in numberless ways. His few aversions among his fellow-practitioners were invariably based on infringements of his minimum standard for common decency and honesty.

He was peculiarly successful in handling his patients, the young and the old and all intermediate ages, both men and women. He appreciated their varying interests, sympathized genuinely with their troubles and worries, and had a peculiarly happy knack through his own optimism of changing the gloom of the sick room to a bright and hopeful atmosphere. In

short, he loved his patients and associates, which perhaps explains why they all in turn loved him so deeply. His major physical indiscretion was never to spare himself, day or night, half-sick or well, when duty called. During the last few years his unconquerable spirit drove the weakening body too hard and at the end of evening rounds on February 1, 1928, at the age of three score and ten, the heart suddenly collapsed.

In many ways this all reads like an idyl of another time or world, and yet it is present-day fact and reality. It deals in such old fashioned virtues as character, self-sacrifice, temperance, love for your fellowman, and finally above all else a cloak of charity over one another's shortcomings.

To the beloved wife and to the idolized son, the Missouri State Medical Association offers its profound sympathy in our mutual bereavement.

MARSH PITZMAN.

TRIBUTE FROM A COUNTRY DOCTOR

The death of Dr. Paul Yoer Tupper marks the passing of a true man, an able surgeon, and a high class Christian gentleman. For this good man Death opened the door to wider fields wherein he is to live forever. His chair was ready first and he has gone before us. Death is no enemy to man. It comes with kindly hands and heals our mortal wounds. No more the sharp rebuke from mortal lips can sting. No more the days of toil and nights of care. No more can evil tidings sorrow bring nor hopes be crushed or confidence betrayed.

Paul Y. Tupper's life was filled with loyal service. He scattered flowers instead of thorns along the pathway of life. His wise counsel and cheerful demeanor spread solace and comfort to thousands of afflicted mortals that came within the pale of his beneficent service. Service is the most commendable asset one can have when departing from this vain world. Our deceased brother was immensely rich in service.

His unselfish devotion and loyalty to his friends bound them to him with thongs of steel and he was more universally loved and respected than any other physician in the great city where he lived. He was blessed with breadth of mind and mental poise that greatly enhanced his achievements for good in this life. He was a popular medical teacher, beloved and revered by his pupils. He had the faculty, as a teacher, of indelibly impressing facts upon the minds of his pupils. His ethical character, with outstanding evidences of an exalted moral plane, together with peace and good-will to all mankind, inspired his students to lofty ideals

and stimulated them to press onward and upward in the pursuit of knowledge pertaining to the divine art of medicine and surgery.

He doubtless had his Gethsemanes, but he met them with a brave heart and a forgiving spirit. His sorrows, if any, were locked within the recesses of his great heart. Being pure in heart he was devoid of covetousness and jealousies. The rankling spirit of jealousy troubled him not. He lived in a sphere high above petty animosities and punctilious criticisms of the common herd of humanity. Honest he was with himself and all the world, which freed him from the debasing influence of unholy ambition. "Blessed is the man unto whom the Lord imputeth not iniquity, and in whose spirit there is no guile."

Dr. Tupper rendered service to suffering humanity up to the hour of his death and, like a brave soldier, he fell in the harness and died at his post in the line of duty. His life was most commendable and worthy of emulation. The good he accomplished in this life will live after him to bless his memory. Peace be unto his soul.

G. W. VINYARD,
Jackson, Mo.

FROM DR. CANNON

Dr. Tupper is dead. His ashes are at rest in Richmond, Virginia. The physical body is dead, but the memory of Tupper will live as long as time lasts and it will be a memory of a man and a true physician. May the world see more like Tupper.

G. S. CANNON,
Fornfelt, Mo.

MESSER HIGHFILL, M.D.

Dr. Messer Highfill, Marshfield, one of the pioneer physicians of Webster County, was called from his labors on earth to rest January 28, 1928, at the age of 70. He was born in Webster County May 6, 1858, and in that county resided all his life. He was a devoted husband and father and a faithful physician. He leaves to mourn his loss a widow, a son and daughter, a grandson, three brothers and one sister. Dr. Highfill was graduated from the Missouri Medical College (now Washington University Medical School), St. Louis, in 1887. Ever since his graduation forty-one years ago he practiced in Webster County. He was a member of the Webster County Medical Society, of which he was president in 1922. In 1920 he served as delegate to the State meeting and as alternate in other years. He was also a member of the Southwest Missouri Medical Society.

The following resolutions were adopted by

the Webster County Medical Society in memory of Dr. Highfill:

WHEREAS, It has pleased the Supreme Architect of the Universe to call from labor to rest our beloved brother of the Webster County Medical Society, Dr. Messer Highfill, therefore be it

Resolved, That in the death of Dr. Highfill his family have lost a devoted husband and father, the Society a faithful brother, and the community an upright citizen and a conscientious physician; and be it further

Resolved, That we will ever bear in grateful remembrance the zeal and fidelity with which Dr. Highfill discharged his duties as a physician and that we will ever try and imitate his zeal and devotion to the principles of our profession; and be it further

Resolved, That a copy of these resolutions be sent the family of our deceased Brother Highfill, be spread upon our records and sent to THE JOURNAL of the Missouri State Medical Association and to the Marshfield Mail for publication.

E. M. BAILEY, President
J. R. BRUCE, Secretary
J. W. GOOD, Committee.

ALONZO W. BENTON, M.D.

Dr. Alonzo W. Benton, Neosho, a graduate of Bellevue Hospital Medical College, New York, 1882, died December 6, 1927, at St. John's Hospital, Joplin, aged 73.

Dr. Benton was a member of the Newton County Medical Society, having served as secretary-treasurer of that Society during 1920, 1921 and 1922, and as president in 1926. He was a delegate to the State meeting in 1924 and alternate in 1926. He was also a Fellow of the American Medical Association.

Dr. Benton specialized in general surgery. At one time he was county physician and surgeon for the Frisco and Kansas City Southern railroads.

RESOLUTIONS

The Newton County Medical Society have adopted the following resolutions in memory of Dr. Benton:

WHEREAS, God in His infinite wisdom has removed from our midst our brother and colaborer, Doctor Alonzo Wellington Benton, a man of unusual attainments, a friend to the poor, a wise counselor to the less informed, an unselfish practitioner of his chosen profession, therefore be it

Resolved, That we express our sympathy to this community for the loss it has sustained and to his only son who grieves at his departure, and be it further

Resolved, That a copy of these resolutions be presented to his son and also spread on our minutes.

R. L. WILLS,
D. E. CULLERS,
R. C. LAMSON,
Committee.

ADONIJAH WILLIAM PARRISH, M.D.

Dr. Adonijah W. Parrish, Kirksville, died at his home February 2, 1928, aged 77, of infirmities of old age.

Dr. Parrish was one of the oldest and best known physicians in Northeast Missouri, having practiced at Kirksville for thirty-three

years. He was born in Scotland County, Missouri, in 1851, the son of Dr. A. and M. A. Parrish. He attended the public schools of Scotland County and high schools at Memphis, Missouri. His medical training was received at the College of Physicians and Surgeons, Keokuk, Iowa and he began practicing at Queen City, Missouri, where he remained for twenty years. In 1895 he moved with his family to Kirksville and became associated with Dr. James W. Martin. During his thirty-three years of practice at Kirksville he made many friends and will be missed not only in his immediate neighborhood but in the surrounding counties as well. He was a member of the Adair County Medical Society, of which he was vice-president in 1923. He was a devout Christian, a member of the Christian Church.

Dr. Parrish is survived by his widow and two sons, Dr. Bert B. Parrish, Kirksville, and Victor Parrish, Daytona Beach, Florida. Dr. Edward E. Parrish, Memphis, Missouri, is a nephew.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL. FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

MISSOURI STATE MEDICAL ASSOCIATION 71ST ANNUAL SESSION

Columbia, May 14, 15, 16, 17, 1928

PRELIMINARY PROGRAM

Guests

Bloodgood, J. C., Baltimore, Md.: What Every Doctor Should Know About Cancer.

Cullen, Thomas S., Baltimore, Md.: Uterine Hemorrhage.

Joslin, Elliott P., Boston, Mass: The Dangers of the Diabetic.

Pottenger, F. M., Monrovia, Calif.: The Early Diagnosis of Tuberculosis.

Smithies, Frank, Chicago, Ill.: A New Method of Examination of Patients Affected With Intestinal Stasis; With Suggestions Relative to Treatment: A Clinical Talk Illustrated With Lantern Slides.

Symposiums

Symposium on Arthritides:

Haden, Russell L., Kansas City: Infections as a Factor in Arthritis.

Francisco, C. B., Kansas City: Luetic Origin.

Welker, J. E., Kansas City: Nutritional Disturbances.

Moore, Sherwood, St. Louis: X-Ray.

Ewerhardt, F. H., St. Louis: Physical Means in the Treatment of Arthritis.

Symposium on Backache:

Dickson, Frank D., Kansas City: Orthopedic Aspects of Backache.

Caulk, John R., St. Louis: Relationship of the Genito-Urinary Organs to Backache.

Crossen, H. S., St. Louis: Gynecology and Obstetrics.

Cole, P. F., Springfield: X-Ray.

Symposium on Headache:

Post, Lawrence, St. Louis: Headaches of Ocular Origin.

Proetz, Arthur W., St. Louis: Nasal Headaches.

Mosher, George C., Kansas City: Gynecology and Obstetrics.

Elliott, B. L., Kansas City: Neurological Aspects.

Symposium on Skin Diseases:

Engman, M. F., St. Louis: Cancer of the Skin.

Sutton, R. L., Kansas City: Ringworm of the Feet.

Duke, Wm. W., Kansas City: Allergy as the Cause of Dermatitis.

Mook, W.H., St. Louis: Manifestations in Syphilis.

Scientific Papers

Booth, D. S., St. Louis: Worry: Its Cause and Prevention.

Connell, Evan S., Kansas City: Observations on the Nasal Sinus Problem: Illustrated with Lantern Slides.

Deweese, R. E., Kansas City: X-Ray Studies of Chronic Pulmonary Infections.

Greene, Carl H., Rochester, Minn.: Clinical Considerations in the Diagnosis and Treatment of Jaundice and Ascites.

Hertzler, A. E., Kansas City: Goiter.

Hill, Roland, St. Louis: Intussusception.

Holbrook, Ralph W., Kansas City: The Medical Stomach.

Holbrook, Walter F., Kansas City: The Surgical Stomach.

Marriott, McKim, St. Louis: Practical Points in the Feeding and Care of Infants.

McVay, J. R., Kansas City: Diverticulum of the Cecum: Case Report With Operative Differential Diagnosis: Illustrated with Lantern Slides.

Mueller, Robert, St. Louis: The Latest Physical Effects and Symptomatology of Thrombophlebitis.

Narr, F. C., Kansas City: Simple Tests in the Study of Kidney Diseases.

Newell, Quitman U., St. Louis: Significance of Pain in the Lower Abdomen in Gynecological Conditions.

North, Emmett P., and Jones, Vincent L., St. Louis: Eye Injuries and Workmen's Compensation Commission.

Sanford, J. Hoy, St. Louis: Progress of Prosthetic Surgery.

Shutt, C. H., St. Louis: Peri-Colic Adhesions as a Factor in Non-Relief of Symptoms Following Chronic Appendicitis.

Stryker, G. V., St. Louis: Radium Treatment of Angioma in Infants.

Wilhelmi, O. J., St. Louis: The Significance of Hematuria and Pyuria: Illustrated With Lantern Slides.

Wood, V. V., St. Louis: Focal Infection: When and Why Postoperative Treatment Should Not Be Employed.

AUDRAIN COUNTY MEDICAL SOCIETY

At the meeting of the Audrain County Medical Society, December 12, 1927, the following officers were elected for the year 1928: President, Fred Griffin, Mexico; vice president, J. G. Moore, Mexico; secretary-treasurer, H. C. Brashear, Mexico; delegate to State convention, R. W. Berrey, Mexico; alternate, R. S. Williams, Mexico.

H. C. BRASHEAR, M.D., Secretary

BOONE COUNTY MEDICAL SOCIETY

The Boone County Medical Society met at the Boone County Hospital, January 3, 1928, at 7:45 p. m. The President, Dr. M. Pinson Neal, Columbia, presided. The minutes of the previous meeting were read and approved.

The Secretary, Dr. Hugh P. Muir, Columbia, read a letter from Dr. Guy L. Noyes, Columbia, thanking the members for the flowers sent him during his illness.

A letter from the board of trustees of the Boone County Hospital was read inviting three or four members of the Boone County Medical Society to meet with them at dinner on the first Thursday of each month.

Dr. D. A. Robnett, Columbia, moved that the Society acknowledge the letter from the board of trustees and thank them for the invitation which will be accepted with pleasure. Seconded by Dr. C. M. Sneed, Columbia, and carried.

Dr. E. D. Baskett, Columbia, gave a report on the bookcase to be purchased for the "doctors' room," at the Boone County Hospital.

Dr. E. D. Baskett reported for the program and entertainment committees.

The program of the monthly meeting of the Boone County Medical Society will be announced a month in advance.

A "Symposium on Gallbladder Disease," was scheduled for the meeting of February 7.

The application of Dr. J. L. Walker, Columbia, a member of the University Health Service, University of Missouri, was read and referred to the committee of censors.

A motion was made by Dr. C. M. Sneed, Columbia, that the Society telegraph Honorable James A. Reed and Honorable Harry B. Hawes that we approve the revenue amendment in favor of physicians. Seconded by Dr. D. A. Robnett, Columbia, and carried.

The following committees were appointed by the President, Dr. M. Pinson Neal, Columbia:

Committee on ethics: M. P. Ravenel, Columbia, chairman; A. R. McComas, Surgeon; F. C. Suggett, Columbia.

Committee on censors: W. O. Fischer, Columbia, chairman; Dan G. Stine, Columbia; A. W. Kampschmidt, Columbia.

Committee to deal with lay projects and organizations: C. M. Sneed, Columbia, chairman; Dudley S. Conley, Columbia; J. A. Jostes, Columbia.

Committee for program and entertainment: E. D. Baskett, Columbia, chairman; R. S. Battersby, Columbia; F. E. Dexheimer, Columbia.

Dr. D. A. Robnett, Columbia, gave a talk concern-

ing the coming State meeting. The expenses of the meeting were discussed. Suggestions for the program will be heard at the next meeting.

On motion by Dr. Dan G. Stine, Columbia, the courtesy of the floor was extended to the visiting dentists.

Dr. C. F. Elzea, Columbia, opened the discussion on "The Relation of Dental Infections to Local and Systemic Disease."

Dr. C. M. Sneed, Columbia, read a paper on "Tonsils, Adenoids and Sinuses in Relation to Systemic Disease."

Dr. D. A. Robnett, Columbia, discussed "The Relationship of Prostatic, Gallbladder and Appendiceal Infections."

A paper on "Focal Infections that Confront the Internist," was read by Dr. Dan G. Stine, Columbia.

Dr. M. P. Neal, Columbia, spoke on "The Pathology of the Appendix and its Relation as a Focus of Infection."

A general discussion followed.

On motion of Dr. Frank G. Nifong, Columbia, the Society extended thanks to Dr. C. F. Elzea, Columbia, for his paper and to the other dentists for their presence and discussion of the paper.

Meeting of February 7, 1928

The meeting of the Boone County Medical Society, February 7, 1928, at the Boone County Hospital, was called to order at 7:45 p. m. by Dr. M. Pinson Neal, Columbia. Dr. Bruner was a visitor. The minutes of the previous meeting were read and approved.

The secretary read a letter from Senator James A. Reed and a telegram from Senator Harry B. Hawes concerning the bill in Congress to allow physicians to deduct traveling expenses while attending medical meetings.

A letter and schedule of courses of the St. Louis Clinics was read by the secretary.

The committee of censors reported favorably on the application of Dr. J. L. Walker, Columbia.

On motion, duly seconded and carried, the report of the committee was accepted and Dr. Walker was unanimously elected to membership in the Society.

Dr. R. S. Battersby, Columbia, announced that the program of the next regular meeting would consist of a symposium on "Obstetrics; Management and Complications."

Dr. D. A. Robnett, Columbia, gave a report on the meeting at the Daniel Boone Tavern with Dr. E. J. Goodwin, St. Louis, Secretary of the State Association, Dr. Frank I. Ridge, Kansas City, President-Elect of the State Association, Dr. E. J. Stowers, a member of the Program Committee, and others. The program of the State meeting was outlined.

A motion was made by Dr. W. O. Fischer, Columbia, that a letter and flowers be sent to Dr. C. L. Lavender, Columbia, who is ill. Seconded and carried.

It was moved by Dr. A. W. Kampschmidt, Columbia, that Dr. Walter McNab Miller, Columbia, be elected an Honor Member. Seconded by Dr. Dan G. Stine, Columbia, and carried.

Dr. M. O. Fischer, Columbia, moved that the name of Dr. O. B. Mayes, Centralia, be passed on by the committee on censors and if a favorable report is returned and he is favorably voted on by the Society that he be admitted as a new member.

Dr. C. M. Sneed, Columbia, made the same motion concerning the name of Dr. W. G. White, Centralia.

Dr. Bruner, who has taken over the practice of Dr. Guy L. Noyes, gave a short talk.

The program consisted of a symposium on "Gallbladder Disease."

Dr. Dan G. Stine, Columbia, spoke on "The Medical Aspects of Gallbladder Disease and the Meltzer-Lyon Method of Gallbladder Drainage."

Dr. D. A. Robnett, Columbia, discussed "X-Ray of the Gallbladder and its Visualization."

Dr. D. S. Conley, Columbia, talked on "Surgery of the Gallbladder."

A general discussion followed.

HUGH P. MUIR, M.D., Secretary.

BOONE COUNTY HOSPITAL STAFF

The Boone County Hospital Staff met at the Hospital, January 3, 1928. Dr. Frank G. Nifong, Columbia, Chief of Staff, presided. The minutes of the last meeting were read and approved.

Dr. Frank G. Nifong suggested a noonday luncheon and meeting for the hospital staff.

It was moved by Dr. M. P. Neal, Columbia, that the Chief of Staff, Dr. Nifong, and the executive committee, Drs. Dudley A. Robnett, C. M. Sneed, and E. D. Baskett, Columbia, arrange for the staff meeting. Seconded and carried.

An invitation was extended to the dentists on service and chief of the dental staff to meet with the Boone County Hospital Staff at their monthly meeting.

A motion was made by Dr. M. P. Neal, Columbia, that the executive committee take up any matter concerning the clinic and bring it before the meeting.

Dr. E. D. Baskett, Columbia, moved that the Chief of Staff, Dr. Frank G. Nifong, Columbia, call a joint meeting of members of the staff and dentists to be held for the purpose of organizing dentists for the coming year and to report on previous clinical service. Seconded and carried.

HUGH P. MUIR, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

At the meeting of the Greene County Medical Society, held at Springfield, December 23, 1927, the following officers were elected for 1928: President, H. A. Lowe, Springfield; vice president, A. D. Knabb, Springfield; secretary, Robert Glynn, Springfield; treasurer, W. E. Handley, Springfield; censor, R. F. Williams, Springfield, (three year term); delegate, J. W. Love, Springfield; alternate, T. O. Klinger, Springfield.

The Society is looking forward to a real big year and will be pleased to have the State President, Dr. Frank G. Nifong, Columbia, and the State Secretary, Dr. E. J. Goodwin, St. Louis, visit with us at any time.

ROBERT GLYNN, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The regular meeting of the Grundy County Medical Society was held at Trenton, January 3, 1928.

Dr. J. B. Wright, Trenton, presented a paper on "Hemolytic Streptococci Infection With Report of Case."

The discussion on the paper was opened by Dr. J. F. Fair, Trenton.

A very interesting paper on "Micrococcus Tetragenus Infection from Mouse Bite With Report of Case," was given by Dr. T. E. Moore, Trenton. This was discussed by Dr. E. A. Duffy, Trenton.

Dr. O. R. Rooks, Trenton, addressed the Society on "Influenza."

Discussion by Dr. Bertha E. Sheetz, Trenton.

There was a good attendance and a lively discussion, making this one of the best meetings the Society has ever had.

E. A. DUFFY, M.D., Secretary.

THE KANSAS CITY ACADEMY OF
MEDICINE

Meeting of December 2, 1927

THE MOTOR BEHAVIOUR OF THE
UTERUS AND THE INFLUENCE OF
COCAIN AND OTHER DRUGS BASED
ON EXPERIMENTAL DATA FROM
THE RAT.—By DR. C. W. GREENE.

The uterus is a muscular organ which constantly exhibits peristaltic contractions. The rat has been used exclusively in our experiments but rabbits and guinea pigs are also available. When a segment of fresh extirpated uterus of the rat is suspended in air or in some aerated and warmed normal solution, it gives rhythmic contractions. The contractions are like those of ordinary smooth muscle, but here we are dealing with an organ and not with pure tissue. The contractions are periodic, often as even as in heart rhythm, but sometimes very compound. The contractions involve the entire organ, beginning at the ovarian end and traveling toward the body of the uterus in simple longitudinal waves of about one per minute. Similar rhythmic contractions are noted in the Fallopian tubes of the monkey with a rate of about four and one-half per minute.

If the oxygen supply to the isolated uterus is stopped, relaxation quickly occurs but activity is promptly renewed with oxygen. The uterus is indeed very sensitive. We have experimented at body temperature, 37 degrees centigrade, but if the temperature is rapidly lowered to 28 or 30 degrees, strong tonic contractions occur with increase in the rhythm.

The rat's uterus is very sensitive to drugs. Solutions of 1 to 10 million adrenalin cause prompt relaxation of the tone and loss of rhythm which persists for only a short time after removal of the adrenalin. The recovery of activity is slow. The action of cocain is also pronounced on the isolated uterus. It is easy to demonstrate by perfusion of the frog's heart that cocain reduces the amplitude, also the rate, and slows the conduction to the point of complete block. The same changes occur in the mammalian heart. On the uterus, very dilute cocain solutions, 1 to 1 million, augment contractions and intensify the tone. Medium strengths reduce the uterine tone and slow rhythm, but in the after period or recovery a state of persistent tonic contraction occurs. To cocain solutions of the strength used to produce local analgesia the uterus immediately relaxes and ceases to contract until the drug is removed. This is obtained by concentrations from .02 to 2.0 per cent. of cocain hydrochloride, tutocain hydrochloride and other cocain derivatives.

Brouha and Simonnet have compared isolated uterine segments at different phases of the estrus. During the resting stage the uterus is small but at the height of estrus it is congested, the muscular walls are thickened and the contractions are more vigorous. When a uterus in estrus is washed with Ringer's or Locke's solutions, the contractions quiet down. When the washings thus secured are used on the uterus in the interestrus stage, the washings stimulate the more quiet preparations. This raises the question of chemical control of the uterine contractions. The matter has been tested on pregnant dogs by Sauerbruch and Hyde. When two pregnant animals are united by venous anastomosis and one animal approaches term with known increased activity of its uterine walls, the uterus of the second dog shows augmented contractions. If the pregnancy of the second dog is only a few weeks old, the augmented contractions are less pronounced but

always present. This is taken as proof that during pregnancy chemical substances are developed which are finally powerful stimuli to uterine activity. In short, the uterus has an inherent contractile power which is low during the immature stages and the pre-estrus, but is augmented at estrus and climaxed at the birth.

Finally, a series of experiments have been made on the rat's uterus in an attempt to analyse the controlling mechanism for its automatic contractions. Isolated rat's uterine segments contracting without external stimulations were arranged to record the mechanical contractions and at the same time electrograms of such changes as are revealed by the action current. The electrical tracing shows a pronounced negativity coincident with the mechanical contractions. The negativity begins a fraction of a second before the contractions and disappears with the end. This type of electrogram of smooth muscle organs has been demonstrated for the intestine, blood vessel, etc. Superimposed on the general electrical deflections are small rhythmic deflections of less intensity and of comparatively rapid rate. These smaller deflections are new to science. They occur in a short series only during the contraction phase of the uterus. They are from 30 to 36 in number, diphasic in character, and average 0.53 second in duration. By similar studies, physiologists have shown that tetanic contractions of skeletal muscle are in fact stimulated by rapid rhythmic nerve impulses, each of which produces an electrical deflection. But it cannot be definitely stated at this time that these rhythmic deflections in the isolated uterus rest upon nerve discharges. One must conclude that they are either nervous in origin or that there is some special stimulating mechanism not previously identified for smooth muscle of the uterus.

EFFECTS OF INJECTIONS OF OVA-
RIAN HORMONE UPON MEN-
STRUAL PHENOMENA IN MON-
KEYS.*—By DR. EDGAR ALLEN.

The menstrual cycle in the monkey is very similar to that in woman. There is a twenty-eight day cycle with three to five days of uterine hemorrhage. The changes in the endometrium of the uterus are similar. In addition is the striking sexual characteristic in the monkey of reddening and swelling of the external genital skin.¹

Since only primates have a typical menstrual cycle, conclusions drawn from experiments in lower animals should not be applied directly to conditions in man. For this reason monkeys were used in the following experiments. The main purpose of these experiments was the removal of the ovaries and an attempt at substitution therapy with chemical extracts. These extracts were standardized in rat units.

The source of hormone used was follicular fluid from large follicles of ovaries removed from pigs in "heat" and from the human full term placenta. So far, no differences have been noted in preparations from these two tissues. The chemical preparation of this hormone has been reported in several papers by Dr. E. A. Doisy, of St. Louis University, with whom the writer worked in collaboration in earlier experiments.²

Following the removal of the ovaries from the monkeys reddening and swelling of the sexual skin

* Published in detail in Carnegie Inst., Wash., Pub. No. 380, 1927.

1. Heape, Corner, Allen.

2. A recent review may be found in *Physiological Reviews*, pp. 7, 600, 1927.

disappeared. After varying intervals of castrate atrophy, injections of hormone were begun. Injections were made twice daily over periods ranging from 9 to 20 days. The first sign of activity of injected hormone was the appearance of reddening and swelling of the sexual skin. This increased as injections were continued and in several cases developed to a maximum.

After cessation of injections the color faded. In 7 to 10 series, bleeding followed the last injection in from 3 to 7 days. The duration of these experimental menses varied from 1 to 6 days. The flow was scant but characteristic. No bleeding occurred during the period of injections and none followed three series in an animal from which the uterus had been removed.

The slides indicate very great growth of the vaginal epithelium, increase in the size of the cervix with growth of the cervical glands, considerable growth in the uterine mucosa and marked growth of the mammary glands. It seems probable that in some cases maximum conditions had been induced as far as reddening of the "sexual skin" and growth of the vaginal walls and mammary glands were concerned. The endometrium was probably nearer a "late interval" than a "full premenstrual" stage of development. However, extensive growth of the uterine glands was indicated by many mitoses and the beginning of coiling in some regions. The presence of secretion droplets along the outer border of the epithelium was considered evidence for at least the beginning of secretory processes.

CONCLUSIONS

1. The injected hormone starts the growth processes in the female genital tract and mammary glands and induces the external "sexual skin" characteristics.
2. It induces at least partial growth in the endometrium with a beginning of coiling of the glands and secretion.
3. Menstruation seems to be due to a decrease in amount or temporary absence of this hormone after it has been acting for a time.
4. Apparently a specific hormone from the corpus luteum, different from that of the follicle, does not seem to be a necessary causal factor in the essential mechanism of the menstrual cycle.
5. Lipoid extracts of human placenta are as effective as extracts of follicular fluid in inducing these effects. The continuous availability of this substance in the human placenta throughout gestation might partly account for the growth of the uterus and mammary glands and the absence of menstruation during pregnancy.

DISCUSSION

DR. CLENDENNING: I have been very interested in Dr. Allen's report and from a practical aspect I want to ask these questions: Is the ovarian follicular hormone nonspecies specific? Can animal extracts be used in the treatment of human cases? Have experiments been done which will throw any light on the chemistry of the hormone? Can a synthetic preparation be secured, comparable to thyroxine? What market products can be recommended for practical therapy?

DR. ALLEN: Apparently the hormone is not species specific. Positive rat tests have been made from material from the human, pig, cow, sheep, horse and hen ovary, and perhaps from fish ovaries. These have proved active in the mouse, rat, rabbit, guinea pig, dog, hibernating ground squirrel and the monkey. This constitutes a fairly wide range of species.

In regard to the chemical composition, there has been much work done upon this problem during the last few years. C, O and H have been identified in active nitrogen free extracts but these products analyzed have been considered quite impure. Parke, Davis and Company and E. R. Squibb and Sons have been supplying qualified clinicians with material for experimental purposes in human cases. These extracts are standardized in rat units. Further work in the application of this hormone to therapeutic uses is required. When present in considerable concentration in the blood this material is apparently excreted in the urine, as is sugar in diabetes.

Meeting of December 16, 1927

NAUSEA AND VOMITING OF PREGNANCY.—By DR. E. C. WHITE.

Nausea and vomiting of pregnancy are not normal, and can be successfully treated. Eighty per cent. of all pregnant women are nauseated; 50 per cent. of these will vomit and at least 25 per cent. of those who vomit will develop hyperemesis gravidarum.

Basing our figures on those of the United States Census Bureau, at least 300,000 women suffered with hyperemesis gravidarum during the year 1926, and 25,000 died from causes due directly or indirectly to pregnancy. Statistics indicate that nausea and vomiting of pregnancy are more prevalent in the United States than elsewhere. I will mention only a few of the more probable causative factors.

First, the pelvic reflex theory is based upon the close connection of the vagosympathetic system in the pelvis and abdomen. Disturbances in metabolism and function at the pelvis reflexly cause nausea and vomiting. The soundness of this theory rests upon the frequent occurrence of nausea and vomiting in connection with uterine or adnexal tumors or endocervicitis, and the disappearance of these symptoms when the pelvic lesion is remedied.

Second, there are cases in which symptoms from preexisting abdominal lesions, such as peptic ulcer or biliary disease, are intensified by pregnancy. Only a small percentage of these cases yield to treatment of the nausea and vomiting unless the primary pathologic condition is corrected.

Third, there is a group of individuals who are fundamentally "neurotic"; in my experience these offer the greatest resistance to treatment. Individual study, perhaps with the assistance of a psychoanalyst and hospitalization where suggestive treatment can be adequately carried out, is a good method of procedure. Additional measures are absolute rest, a trip to another city, ice caps, Elixir I. Q. S. highballs, and an attitude toward the patient which would indicate to her that she has a distinct disease entity. Laymen and Gibson secured favorable results by having their patients drink 2 per cent. sodium chloride solution.

Fourth, there is a group of cases essentially toxic, with the clinical picture of dehydration, in which apparently metabolic disturbances or ovarian secretion deficiency play an important role. Improvement occurs when the normal amount of body fluids are re-established and elimination promoted.

Our treatment consists of limiting food intake, introducing fluid and promoting elimination. This is accomplished with the patient at absolute rest by a saline laxative and fasting for 24 hours. High colonic flushing may be used. Fruit juices and carbonated alkaline waters are offered. Retention enemas of chloral and bromides help secure rest. The second day, Sippy's dry diet of toast and cereals is begun, alternating every two hours with liquids. At the end of a week the patient can either handle her

foods or more radical measures must be instituted. Fluids may be given by hypodermic. The value of corpus luteum, ovarian extract, intravenous glucose, and similar preparations, is questionable.

DISCUSSION

DR. ASCHMANN: This line of treatment is thorough. As yet we know little about the cause, but possibly the cessation of menses is concerned since the symptoms appear after three weeks, last about three months, and then gradually decrease. The individual affected is usually of the "neurotic" type, and that which causes the neurosis may be indirectly responsible for the nausea and vomiting. There must be acidosis. Sodium bromide and bicarbonate lead to decreased nausea. Forcing fluids is important for these patients. The effects of ovarian substance and corpus luteum are more psychic than anything else.

DR. LEVERIDGE: Little good is accomplished in these cases by internal medication. Reflex is at the basis of many cases and isolation is a valuable adjunct in treatment.

DR. WHITE, in closing: I should like to ask Dr. Major about his experience with 2 per cent. sodium chloride by mouth in such cases.

DR. RALPH M. MAJOR: I have had no experience with the toxemia of pregnancy. Recently a patient of Drs. Haden and Guffey, who had signs of marked alkalosis with a low blood chloride and high CO_2 , showed marked improvement on sodium chloride solution.

HYDATIDIFORM MOLE.—By DR. M. A. HANNA.

Neuman in 1897 thought there were both malignant and benign moles. Pick found the two difficult to separate histologically. Only after the mole has penetrated the myometrium can it be proven malignant. Virchow's opinion that the mole is due to some endometrial change is difficult to believe in the light of twin pregnancies with one a mole. Aichel, in 1901, produced hydatidiform mole by ligating the decidual vessels in dogs. Forty per cent. occur between the twentieth and thirtieth year.

Interest centers in hydatidiform mole because of severe hemorrhage attending its expulsion, because of its erosive proclivities with perforation of the uterus, and because of occasional termination in chorionepithelioma. Novak believes that less than 1 per cent. becomes malignant, Palmer Findley estimates 26.2 per cent. and Sunde believes that 50 per cent. of chorionepitheliomas are preceded by moles while 5 per cent. of moles are followed by chorionepitheliomas.

The frequency of hydatidiform mole is approximately one in five thousand cases.

A characteristically constant symptom is early bleeding in pregnancy and a disproportionately large uterus. The elementary cysts may appear in the blood passed. The patient, although perhaps exsanguinated, rarely complains of pain.

If the mass is not expelled intact, treatment consists of gentle exploration with the finger, dull curette or gauze covered dressing forceps. If the mole has eroded through the fundus, the uterus should be packed with antiseptic gauze, and with persistent bleeding hysterectomy may be indicated.

CASE REPORT

A 25 year old para one, married 5 months, was diagnosed as having a pregnancy of ten weeks' duration, and nausea and vomiting of pregnancy. Her

menses had started at age 13 and followed a regular 28 day cycle.

Examination revealed an enlarged, retroverted uterus. The patient was put to bed, alkalinised, instructed to take the knee-chest position at intervals, given whole ovarian extract by hypodermic, and a pessary was introduced for support. She lost 20 pounds and nausea improved. During the next two months she had several hemorrhages and became exsanguinated. Examination then revealed a mass resembling placental tissue at the cervix. Transfusion was done. Shortly afterward there were uterine contractions with bleeding through the vaginal pack, and approximately 2 quarts of hydatidiform mole were expelled. Then the bleeding and pain stopped.

The patient left the hospital after nine days, experiencing a normal puerperal period, but at home passed an orange-sized clot and had to return to the hospital for intra-uterine exploration. The os was found dilated 2 cm., the endometrium rough, and the right cornua perforated by erosion of the hydatidiform process. A little tissue was removed and the uterus packed with gauze.

Temperature was about 100 degrees and on the third postoperative day symptoms of enteritis occurred and lasted five days. Seven days after the intra-uterine exploration a mass in the pelvis was interpreted as a low grade pelvic cellulitis of undetermined origin. Patient still at the hospital well on the road to recovery. She will be watched closely for evidence of chorionepithelioma.

DISCUSSION

DR. WHITE: I had a patient with hydatidiform mole on whom a diagnosis of miscarriage was made. After two hours bleeding a hydatid was expelled with no evidence of attachment and very little bleeding. This represented the simple or benign type of hydatidiform mole.

DR. HUGH OWENS: I had a case about two weeks ago, with hemorrhage but no pain. About the fourth month my patient had severe cramps for six hours and passed a mass about the size of Dr. Hanna's specimen. She went home after two weeks but had a little pain and a mass at the left side of the pelvis which was possibly extrauterine. She is still under observation.

DR. HANNA, in closing: A peculiar feature of my case was that the uterus was the size of a five month pregnancy but there were no fetal heart tones.

OPERATION FOR CURE OF CONGENITAL URINARY INCONTINENCE IN THE MALE.—By DR. C. K. SMITH.

In congenital incontinence there is lack of innervation of the bladder sphincters and practically no muscular development on this account. The problem is one of muscle transplantation to secure sphincter action.

Deming, in 1926, and Plager and Cullander, in 1927, performed and reported successful transplantation of the gracilis muscle into the perineum for urinary incontinence. This muscle is adaptable because its nerve and blood supply are by way of the upper third, and it is not missed from the thigh.

CASE REPORT

A male child 12 years old suffered with constant dribbling of urine since birth. Had never been able to move legs below the knees. There was spina bifida occulta with deficiency of the sacral plexus, from which arise both pudic and parasympathetic

nerves. The child was bright and well developed otherwise, with the exception of non-demonstrable testicles and apparent atrophy of the gluteal, perineal and lower leg muscles. He had been circumcised. The thigh muscles that receive their nerve supply largely from centers above the site of the spina bifida appeared normal.

The operation in this case was difficult owing to the undeveloped infantile perineal structures.

After a retention catheter had been removed on the fourth postoperative day, for the first time in his life the patient was able to start and stop his urinary stream; and he could retain urine for twenty minutes at a time. A complication in the form of complete retention and the development of a urinary fistula occurred but these have been remedied. Now, five months after the original operation, the patient can control his urine for periods of three hours without discomfort.

The patient, through the skill of the orthopedic surgeon, has become a self-supporting citizen. He is here and I will see if he can pass his urine before you. Just how the transplant works I do not know but I believe the perineal reinforcement with attendant tonicity of the gracilis muscle is responsible for his urinary control, rather than sphincteric action.

DISCUSSION

DR. JOHN HAYDEN: What is the bladder capacity now? How often must the boy void at night?

DR. C. K. SMITH: The bladder capacity is about three ounces. He awakens to void about two times at night but stays dry.

DR. F. C. NEFF: What is your interpretation of the X-ray of the spine?

DR. SMITH: There is apparently absence of the sacrum.

DR. NEFF: Has there ever been any urinary tract infection?

DR. SMITH: No. The urine has remained clear.

DR. HAYDEN: When were the two other cases you reported done and how long were they incontinent?

DR. SMITH: In 1926 and 1927. One was in an old man who had incontinence following prostatectomy. The other was in a girl of twenty.

DR. HAYDEN: There may be fibrous bands formed later because of the absence of function in the gracilis muscle.

DR. ASCHMANN: Was there a history of palpable external spina bifida at birth?

DR. SMITH: No.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met in regular session Friday, January 13, 1928, at 7:30 p. m. in the rooms of the county health officer at Maryville. A quorum being present the meeting was called to order by the president, Dr. C. D. Humbert, Barnard. The following members were in attendance: Drs. C. P. Fryer, L. E. Dean, C. T. Bell, H. S. Rowlett and H. S. Dowell, of Maryville; H. S. Maxwell, Hopkins; C. D. Humbert, Barnard. The minutes of the meeting of February 11, 1927, were read and approved. The reading of the treasurer's report for the year 1927 was postponed until the next meeting so that a detailed report may be drawn up.

A communication from the State Association Secretary, Dr. E. J. Goodwin, St. Louis, regarding delinquent dues was read by the Secretary, Dr. H. S. Dowell, Maryville. Dr. Dowell was instructed to make a special effort to collect the dues of the four members who were delinquent for 1927.

The bill for flowers for our deceased member,

Dr. Joel H. Todd, Maryville, was ordered included in the treasurer's report for 1927.

Dr. L. E. Dean, Maryville, moved that the Secretary prepare a financial report in full to January 1, 1928, and present it at the next regular meeting. Seconded and carried.

The application of Dr. E. Metheny, address unknown, for membership in our Society by transfer from his local Society at Lincoln, Nebraska, was read. Since there was no communication from Dr. Metheny himself and his whereabouts are unknown to all the members of the Society and the application had simply lain in *statu quo* since last August, Dr. C. T. Bell, Maryville, moved that the transfer form be returned to Dr. Munger, Secretary, Nebraska State Medical Association, further action in the matter to come from him or from Dr. Metheny personally by communication with either the president or the membership committee of the Society. Seconded and carried.

The report of the State meeting by the delegate, Dr. H. S. Dowell, Maryville, was suspended and the Society proceeded to elect officers for the current year.

Dr. H. S. Maxwell, was nominated for president by Dr. C. T. Bell, Maryville. Dr. Hugh S. Rowlett, Maryville, moved that the nominations close and that Dr. Maxwell be elected by acclamation. Motion seconded and carried.

Dr. C. P. Fryer, Maryville, was nominated for vice-president by Dr. L. E. Dean, Maryville. Dr. C. T. Bell, Maryville, moved that the nominations close and that Dr. Fryer be elected by acclamation. Motion seconded and carried.

Dr. C. D. Humbert, Barnard, was nominated for secretary-treasurer by Dr. L. E. Dean. Dr. H. S. Rowlett, Maryville, moved that the nominations close and that Dr. Humbert be elected by acclamation. Seconded by Dr. H. S. Dowell, Maryville, and carried.

Dr. C. D. Humbert was also nominated for delegate to the 1928 meeting of the State Medical Association by Dr. L. E. Dean. Dr. H. S. Dowell moved that the nominations close and that Dr. Humbert be elected by acclamation. Seconded by Dr. C. T. Bell and carried.

Dr. C. T. Bell named Dr. H. S. Maxwell as alternate delegate to the State meeting. Dr. L. E. Dean moved that the nominations close and that Dr. Maxwell be elected by acclamation. Dr. C. P. Fryer seconded the motion. Carried.

The meeting was then taken over by the new officials and plans for future meetings were discussed. The offer of the Kansas City Southwest Clinical Society, in its January *Bulletin*, to furnish program material for county medical society meetings was read.

Dr. L. E. Dean moved that the secretary be instructed to communicate with the Kansas City Southwest Clinical Society for particulars of this lecture service. Seconded by Dr. C. P. Fryer and carried.

The secretary opened the discussion concerning a paper on the history of the Nodaway County Medical Society.

Dr. L. E. Dean was asked by the president to write such a paper for presentation at a future meeting.

Dr. C. P. Humbert moved that the Society appropriate \$15.00 to Dr. Dean for his use in securing a stenographer and copyist to help gather material for this paper from old minutes, newspaper files, court records, published histories, directories, personal letters, etc. Dr. H. S. Dowell seconded the motion. Carried.

After some discussion it was decided that the

amount of the annual dues of the Society remain the same as that fixed two years ago.

Discussion concerning the organization of a Women's Auxiliary to the county medical society was introduced, but as no plans seem to have been made and nothing came up which needed the attention of the Society no action in regard to an auxiliary was taken.

Dr. C. P. Fryer, Maryville, courteously tendered the Society the use of the offices of the county health department for holding future meetings.

The meeting adjourned at 9 p. m. to the Knox Cafe for beer, stews, cigars and reminiscences of "the good old days."

CHAS. D. HUMBERD, M.D., Secretary.

ST. CHARLES COUNTY MEDICAL SOCIETY

The St. Charles County Medical Society met at the St. Joseph's Hospital, St. Charles, December 13, 1927, and the following officers were elected for the year 1928: President, T. L. Hardin, St. Charles; vice-president, B. G. Gossow, St. Charles; secretary-treasurer, L. E. Belding, St. Charles; board of censors, B. G. Gossow, St. Charles, (one year term); J. M. Jenkins, St. Charles, (two year term); A. P. Erich Schulz, St. Charles, (three year term); delegate, A. P. Erich Schulz, St. Charles, (two year term); alternate, B. G. Gossow, St. Charles.

L. E. BELDING, M.D., Secretary.

ST. FRANCOIS COUNTY MEDICAL SOCIETY

The meeting of the St. Francois County Medical Society held at Flat River, December 15, 1927, was well attended.

Dr. A. L. Evans, Bonne Terre, gave a very interesting talk on diseases of children, discussing the diagnosis, management and treatment, emphasizing modern methods of dietetics, such as early feeding, buttermilk, sunshine, etc.

Dr. R. A. Appleberry, Farmington, reported a case which he had recently treated.

Dr. G. W. Tidwell, Wallington, New Jersey, formerly of Elvins, Missouri, was granted a transfer to the New Jersey Society.

The next meeting of the Society will be a joint session of physicians and dentists to be held March 15 at State Hospital No. 4, Farmington.

R. A. APPLEBERRY, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, December 13, 1927

The meeting was called to order at 8:40 p. m. by Dr. Amand Ravold, in the absence of the President, Dr. Charles A. Vosburgh. The minutes of the previous meeting were read and approved.

Dr. Ravold made an announcement of a Children's Christmas Party to be given by the president in the auditorium of the Society on December 29.

Dr. W. C. G. Kirchner mentioned the appointment of Rev. Alphonse M. Schwitalla, S. J., as dean of the St. Louis University School of Medicine, and Dr. Ravold suggested that the St. Louis Medical Society extend at an early date a reception to Father Schwitalla.

Dr. John McH. Dean moved that Dr. Ravold's suggestion be made a motion before the Society. Seconded by Dr. Kirchner. Carried.

The scientific program consisted of the following

symposium on "The Treatment of Pain in the Back":

"The Treatment of Pain in the Back Due to Traumatism," by Dr. J. Archer O'Reilly.

"The Treatment of Pain in the Back Due to Postural Conditions," by Dr. LeRoy C. Abbott.

"The Treatment of Pain in the Back Due to Infections," by Dr. J. Albert Key.

Discussion by Drs. M. L. Klinefelter, A. E. Horwitz, H. I. Spector, F. H. Ewerhardt, Charles A. Stone, Charles A. Kelly, Guy Simpson.

Attendance 150.

Meeting of December 20, 1927

The meeting was called to order at 8:50 p. m. by the President, Dr. Charles A. Vosburgh.

The President made the following announcements:

1. That no meeting of the general Society would be held on December 27, in accordance with the By-Laws.

2. A Christmas party would be given by the president for children of members of the Society on December 29, at 2:30, in the auditorium of the Society.

3. That Mr. John Lonsdale, President of the National Bank of Commerce, would give a talk before the General Society on the evening of January 17, 1928, on "The Professional Man's Finances," this to be a joint meeting with the Dental Society and that the wives of the dentists and physicians were invited.

Dr. Vosburgh also commented on the fact that this was the last meeting of the General Society at which he would preside, and expressed his thanks for the hearty cooperation given him during the year by the various committees and by the members of the Society.

The scientific program consisted of the following: "Care of Feeble Minded, Insane and Tubercular in the City Institutions."

"General Character of Management," by Dr. J. Wilbur Shankland.

"Methods in Use at the Training School for Feeble Minded," by Dr. James Lewald.

"Methods in Use at the City Sanitarium," by Dr. E. J. Lee, Jr.

"Methods in Use at the Koch Hospital," by Dr. Robert Schwartz.

Discussion by Dr. Frank Hinchey, Dr. Norvelle Wallace Sharpe.

Dr. Sharpe spoke on the magnitude of the tasks of the officials of the Society and suggested that the organization consider itself fortunate to have had these posts so competently filled always in the past, and moved that the secretary be authorized to send a written notice of approval and appreciation to the employees of the Society for their work and co-operation during the past year. Seconded by Dr. Shutt. Carried.

Attendance 100.

Annual Meeting, January 3, 1928

The meeting was called to order at 9:10 p. m. by the President, Dr. Charles A. Vosburgh.

Dr. Robert E. Schlueter moved that the By-Laws be suspended and the reading of the minutes and the reports of officers, sections, and committees be dispensed with and published in the *Bulletin* of the Society. Seconded by Dr. Wm. L. Clapper. Carried.

An address was delivered by the retiring President, Dr. Charles A. Vosburgh, and the following officers were installed:

Delegates to the Missouri State Medical Association: Drs. Wenzel C. Gayler, Marsh Pitzman, John

Green, Charles E. Hyndman, Alonzo R. Kieffer, Harry M. Moore, Harvey S. McKay, Roland Hill, Cleveland H. Shutt, Ralph L. Thompson.

Councilors: Dr. R. B. H. Gradwohl, escorted to the stage by Drs. John C. Morfit and Norvelle Wallace Sharpe; Dr. John Green, escorted to the stage by Drs. Edgar F. Schmitz and Cleveland H. Shutt; Dr. Frank J. V. Krebs, escorted to the stage by Drs. Fred Bailey and Hillel Unterberg; Dr. John F. Hardesty, escorted to the stage by Drs. Alphonse McMahon and Joseph E. Glenn; Dr. Charles A. Vosburgh.

Secretary: Dr. Roland S. Kieffer.

Second vice president: Dr. J. Curtis Lyter, escorted to the stage by Drs. Neil Moore and F. G. A. Bardenheier.

First vice president: Dr. Drew Luten, escorted to the stage by Drs. Cleveland H. Shutt and Dalton K. Rose.

President: Dr. Charles H. Neilson, escorted to the stage by Drs. Cyrus E. Burford and William H. Vogt.

Dr. Neilson then delivered his inaugural address.

Vocal selections were rendered during the program by the Do-Re-Mc Quartette.

The meeting adjourned at 10:10 p. m. for the president's reception.

Attendance 400.

Meeting of January 17, 1928

The meeting was called to order at 8:45 p. m. by the President, Dr. Charles Hugh Neilson.

Dr. John C. Morfit moved that the reading of the minutes of the previous meeting be dispensed with. Seconded by Dr. John McH. Dean. Carried.

Dr. C. H. Shutt introduced Mr. John G. Lonsdale, President of the National Bank of Commerce, who gave a talk on "The Professional Man's Finances."

Dr. Fred Bailey moved that a rising vote of thanks be extended to the distinguished speaker of the evening. Seconded and carried.

Attendance 400.

ROLAND S. KIEFFER, M.D., Secretary.

Meeting of the Council, November 9, 1927

The meeting was called to order at 8:30 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the previous meeting were read and approved.

A letter from Dr. M. B. Clopton for the Red Cross was read asking that a scale of fees be fixed for work done in the homes of dependent tornado victims.

The President appointed a committee, consisting of Drs. V. P. Blair, Amand Ravold and H. Unterberg, to take this matter under advisement.

A letter from Dr. E. J. Goodwin concerning a conflict in By-Laws between the state and local societies governing admission of junior members was read.

Dr. Unterberg moved that the Council acknowledge receipt of this communication and that the matter be referred to the Committee on Revision of Constitution and By-Laws for adjudication with the Executive Committee of the State Association.

The report of the membership committee was read by the secretary in the absence of Dr. Martin.

Dr. Neilson moved that the report be received and those applicants recommended be voted upon collectively.

The following were elected: Active—Drs. Max John Bierman, 1801 Franklin; Wm. R. Bohne, Wall Bldg.; Thomas C. Wimber, 725 Metropolitan Bldg.

Junior—Dr. A. Robert Holdenried, 4425 Morgan-ford.

The application of Dr. Dan Tucker Miller for active membership by transfer from the Vigo County (Indiana) Medical Society was read for the second time and he was elected to membership.

It was moved by Dr. Bailey, seconded by Dr. Neilson, that Dr. Sven Ingvar, of Lund, Sweden, be invited to address the Society. Carried.

The Council heard the reports of several committees and appropriate action was taken.

Dr. Unterberg reported informally for the Committee on Revision of Constitution and By-Laws that it was considered unwise to make changes in the By-Laws governing the election of the president and providing for the election of a president-elect.

Dr. Vosburgh reported for the special committee appointed to devise plans for raising the dues of the Society.

Dr. Neilson moved that the report of the special committee be sent out to the membership as a letter and published in the *Bulletin*. Seconded and carried.

Dr. Unterberg moved that Dr. Blair be designated to present the question of raising the dues before the General Society. Seconded by Dr. Mayes. Carried.

It was suggested that in order to conform with the regulations governing a change of By-Laws that Chapter XI pertaining to dues be amended to read "\$30.00 a year," and that this be published in the *Bulletin* preparatory to action by the General Society.

The secretary reported that Dr. Carl Barck had donated some rare surgical instruments to the Society for permanent exhibition.

On motion of Dr. Unterberg this gift was accepted and a letter of thanks ordered sent to Dr. Barck.

Meeting of the Council, December 14, 1927

The meeting was called to order at 8:15 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the regular meeting of November 9, and the special election meeting of November 25, were read and approved.

A letter from Dr. Hill, asking that he be excused from attending the meeting on account of an unavoidable absence from the city, was read.

A letter from Dr. Ernst H. Mueller resigning from membership was read.

On motion of Dr. Funsch, seconded by Dr. Ravold, Dr. Mueller's name was transferred to the Honor Membership list.

A letter of resignation from membership from Dr. Clifton R. Dudley was read and on motion of Dr. Ravold, seconded by Dr. Blair, his resignation was accepted.

A letter from the Lindell Boulevard Property Owners' Association concerning violations of the zoning ordinance was read, and a motion that this matter be referred to the house committee was defeated.

Dr. Unterberg moved, seconded by Dr. Blair, that the matter be attended to by a committee composed of the president and secretary of the Society. Carried.

Dr. Clarence Martin read the current report of the membership committee and submitted a summary of the membership for the year 1927.

Dr. Schlueter moved that the recommendations of the membership committee be accepted and that the Council ballot collectively on those recommended for membership.

The following were elected: Active, Dr. S. H. Mazius, 3402 Cherokee street. Junior—Drs. Andy Hall, Jr., Lister Building; William P. Neilson, Missouri Baptist Sanitarium; Elmer P. Schluer, 820 Metropolitan Building; Edwin F. Vitt, 3772 S. Broadway.

Applications for active membership by transfers from Drs. R. W. Denney, 5003 Delmar Blvd., and J. W. Thompson, 718 Beaumont Medical Building, were read for the first time.

On motion of Dr. Schluter, seconded by Dr. Funsch, Dr. Edward H. Kessler was made an honor member.

Reports of various committees were heard by the Council and appropriate action was taken.

Dr. Blair moved that a committee be appointed to settle satisfactorily the details of receiving Dr. James Moors Ball's library. Seconded by Dr. Leighton. This motion carried and the president appointed Drs. Neilson, Unterberg and Blair as the committee.

Dr. Blair moved that the committee appointed to make arrangements regarding the Ball books be authorized to look into the matter of establishing a permanent place in the building to exhibit rare and valuable surgical instruments. Seconded by Dr. Funsch. Carried.

ROLAND S. KIEFFER, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held at the Webster Groves Trust Company, January 11, 1928. The meeting was called to order at 3 p. m. by the President, Dr. Frank P. Knabb, Valley Park. Eleven members were present.

The application by transfer from the St. Louis Medical Society of Drs. Joseph McNearney, Maplewood; John D. Hayward, University City; and Harvey L. Meador, Clayton, were handed to the membership committee and they were duly elected to membership in the Society.

A letter from the State Medical Association regarding a change in the heading of Chapter IV, Section 4, of the St. Louis County Medical Society Constitution and By-Laws, was read.

A motion was made that notice of this change be mailed to each member of the Society before the next meeting. Seconded and carried.

The records of the retiring Secretary-Treasurer, Dr. C. C. Irick, Webster Groves, were audited by the auditing committee and found to be accurate.

Dr. J. H. Armstrong, Kirkwood, gave a very interesting talk on "Fractures" and another on the "Bladder."

The following committees were appointed by the President, Dr. Frank P. Knabb:

Program committee, C. C. Irick, Webster Groves; Joseph McNearney, Maplewood; H. N. Corley, Webster Groves.

Auxiliary Committee on Public Policy, J. H. Armstrong, Kirkwood.

Membership committee, A. W. Westrup, Horine Miles and W. F. O'Malley, Webster Groves.

Entertainment committee, Otto W. Koch, Clayton; W. H. Townsend, Maplewood; E. L. Fredericks, St. Louis.

Necrology committee, Garnett Jones, Maplewood; D. Henry Hanson, Kirkwood; O. N. Schudde, Ferguson.

E. E. TREMAIN, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1927-1928

President, Mrs. Wallace M. Bickford, Marshall.
President-Elect, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. W. T. Martin, Albany.

3rd Vice President, Mrs. T. O. Klinger, Springfield.

4th Vice President, Mrs. M. P. Ravenel, Columbia.

Corresponding Secretary, Mrs. L. S. James, Blackburn.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. T. J. Draper, Warrensburg.

Directors (2 years): Mrs. A. B. McGlothlan, St. Joseph; Mrs. D. S. Long, Harrisonville; Mrs.

George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University City; Mrs. C. T. Ryland, Lexington (1 year); Mrs. M. P. Overholser, Harrisonville; Mrs.

H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs.

W. F. O'Malley, Webster Groves.

W. F. O'Malley, Webster Groves.

FOURTH ANNUAL MEETING WOMEN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

Columbia, May 15 and 16, 1928. Missouri State Teachers Association Building. Hotel Headquarters, Daniel Boone Tavern

PRELIMINARY PROGRAM

Tuesday, May 15, 1928, 9:00 a. m.: Executive Board meeting.

Tuesday, May 15, 1928, 1:00 p. m.: Group luncheons will be given by the Women's Auxiliary to the Boone County Medical Society in honor of the State Executive Board, State delegates and visiting ladies. The Boone County hostesses feel that they can best show their pleasure in having the visiting Auxiliary women by entertaining them in their homes, thereby having the privilege of becoming better acquainted with them. They want the women of the State to feel that cordiality and hospitality is the spirit behind the invitation.

Tuesday, May 15, 1928, 2:30 p. m.: Talk on Crippled Children, illustrated with lantern slides, by Dr. Frederick A. Jostes, Columbia, and assistant.

Visit to the crippled children's ward at the University Hospital.

Tuesday evening, May 15, 1928: Program to be announced.

Wednesday, May 16, 1928, 9:00 a. m.: Address of Welcome and Response. Report of Officers. Report of Standing Committee. Report of Amendments Committee. Report of Credentials Committee. Report of Nominating Committee. Election of Officers. Report of Resolution Committee. Short talks along educational lines by prominent men throughout the session.

Wednesday, May 16, 1928, open luncheon: During the luncheon each county will be allowed two minutes for reporting the activities of their organization. Introduction of new President, Mrs. Willard Bartlett, St. Louis. Speaker to be announced.

Wednesday, May 16, 1928, 2:30 p. m.: The Chamber of Commerce has been asked to conduct

a sight-seeing tour of Columbia and the Missouri University.

Wednesday, May 16, 1928, 4:00 p. m.: Tea to visiting Auxiliaries.

Wednesday, May 16, 1928, 6:00 p. m. to 8:00 p. m.: Incoming Executive Board dinner session, Mrs. Willard Bartlett, St. Louis, presiding.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. R. W. Berrey.....	Mexico
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St. Louis City.....	Mrs. Hudson Talbott.....	St. Louis
St. Louis.....	Mrs. W. E. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

A report from the president of the Women's Auxiliary of Cole County, Mrs. Stanley P. Howard, Jefferson City, states that the Cole County Auxiliary is functioning nicely. Dr. Blanche E. C. Hopkins, Jefferson City, is devoting much of her valuable time to placing Hygeia before the public. The Auxiliary is placing Hygeia in all the county schools.

BOOK REVIEWS

INDUSTRIES AND OCCUPATIONS FOR THE MENTALLY DEFECTIVE. By P. J. Deely, House Steward of The Manor, Epsom, England. Published by Birch & Whittington, 10 Station Road, Epsom.

As Dr. E. S. Littlejohn, Medical Superintendent of The Manor, states in his foreword, this volume is "a welcome addition to the literature already existing upon the subject," especially at a time when new colonies are being developed and their officers are grateful for suggestions along lines of occupations to which these patients may be put.

The information contained in this book is rendered even more valuable when coupled with that contained in a piece of work prepared by Dr. Walter E. Fernald and posthumously read by Dr. C. Stanley Raymond, Assistant Superintendent of the Walter E. Fernald School, at the Convention of the American Association for the Study of the Feeble-minded at Toronto, Ontario, in 1926. In this work Dr. Fernald set forth his experiences of the mental levels necessary to perform certain types of work satisfactorily.

Deely's book not only enumerates many fascinat-

ing occupations and industries which are adaptable to the occupation of the mental defective, but also gives a brief outline of how each is accomplished and what material and equipment is necessary.

Economy seems to have a large factor in the development of the types of work, although making the patient useful to his associates and the organization as a whole has also been considered carefully. To supervisors of industries in institutions for both mental defectives and the insane, to occupational therapy workers and others interested in learning what can be done with mental defectives, this book should prove interesting.

J. L.

SURGERY. Its Principles and Practice. For Students and Practitioners. By Astley Paston Cooper Ashurst, A.B., M.D., F.A.C.S., Professor of Clinical Surgery in the University of Pennsylvania, etc. Third edition, thoroughly revised. With 15 colored plates and 1046 illustrations in the text, mostly original. Lea & Febiger. Philadelphia. 1927. Price \$10.00.

This third edition fulfills all the requirements of a single volume textbook on surgery. The illustrations are good. The text is splendidly edited and gives an excellent concise exposition of the subjects treated. It is well worth a place in any medical library.

J. G. H.

DISEASES OF THE STOMACH, A Handbook of. By Stanley Wyard, M.D., B.S., M.R.C.P., Physician to The Bolingbroke Hospital and the Victoria Hospital for Children; Assistant Physician to the Cancer Hospital. Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1927. Price \$5.00.

This book takes in the study of anatomy and physiology of the stomach; the clinical examination of patients; pathological investigations; diet and dietetics; various types of therapeutic measures; a study of dyspepsia; a study of congenital anomalies; irritations of the stomach. A whole chapter is devoted to gastric ulcer, another is devoted to motor insufficiency together with stenosis of the pylorus, and still another to tumors of the stomach.

Your reviewer was interested in the statement on page 22, "I would now merely emphasize the advice that no diagnosis of any gastric disease should ever be made without previous digital examination of the rectum."

On page 23 the author says: "The visible peristalsis wave is present only if there be a pyloric obstruction, though there need be no actual pyloric lesion, e. g. adhesions, by displacing either the pylorus or the stomach, or both, may cause angulation which obstructs the passage of the stomach contents into the duodenum."

On page 332: "The blood picture of carcinoma of the stomach may be indistinguishable from that of Addison's anemia or may differ in that the color index is below 1.0 instead of above it, or that there is no leukopenia with relative lymphocytosis." This statement is apparently all that is said about the blood picture in cancer of the stomach.

The author's view with regard to the relation of ulcer and carcinoma seems to be summed up in this sentence, found on page 329: "It seems then that gastric ulcer is not a frequent cause of gastric cancer, but that it is occasionally so, and probably about 5 per cent. of gastric cancers originate in a simple ulcer."

The book is valuable, not so much as affording

technic and similar details for the instruction of practitioners and students, but rather as an exposure of a prominent physician's views on the subject of gastric disease. As such it is of great interest and value, especially to internists and gastrologists.

G. H. H.

CLINICAL PHYSIOLOGY. (A Symptom Analysis) In Relation to Modern Diagnosis and Treatment. A text for Practitioners and Senior Students of Medicine. By Robert John Stewart McDowall, D.Sc., M.B., F.R.C.P. (Edin.) Professor of Physiology, King's College, University of London. With an Introduction by W. D. Halliburton, L.L.D., F.R.C.P., F.R.S., Emeritus Professor of Physiology, King's College, University of London. New York: D. Appleton & Company. Price \$7.00.

Within a few years after leaving college the technical and theoretic considerations of physiology become of little interest and perhaps almost unintelligible to the average graduate in medicine. The only things that he can remember are those that pertain to the active practice of medicine. Consequently there is an ever recurring need of linking up the theoretic studies of physiology and the physiological laboratory work with clinical medicine.

In my student days Kirk's Handbook of Physiology, edited by Halliburton, was a godsend, because it explained to me the more erudite and abstract work of the professional physiologist. It brought them within the scope of practical affairs. Since Halliburton ceased to edit the book there has been a blank in our libraries along that line. This void Professor McDowall is attempting to fill in the present volume, with the backing of Professor Halliburton.

While the style does not seem to be as attractive as Halliburton's, still it is readable and intelligible. Therefore your reviewer believes that this book will meet a real need in the library of many practitioners.

FEEDING AND THE NUTRITIONAL DISORDERS IN INFANCY AND CHILDHOOD. By Julius H. Hess, M.D., Professor and Head of the Department of Pediatrics, University of Illinois College of Medicine; Attending Pediatrician to Cook County, Michael Reese and Englewood Hospitals, etc. Illustrated with forty-five engravings in the text and one full-page colored plate. Fifth revised and enlarged edition. Philadelphia: F. A. Davis Company, Publishers. 1927. Price \$4.50.

Five revisions in nine years are none too many for a book on infant nutrition.

A few years ago a precocious infant could have told the kind of feeding he would get merely by knowing the name of the city in which he happened to live. (The top-milk of Boston, the lactic acid milk of St. Louis, The S. M. A. of Cleveland, etc.) It is the difficult function of such a book as this to correlate the more important methods of feeding in health and disease, to present them concisely for the judgment of the reading pediatricians and, let us hope, the harried general practitioner.

The author's intimate knowledge of the details presented; his ability to keep individual topics—even those on which he has done much research—from getting out of hand; his understandable presentation of the much disputed matter of classification; his incorporation of such recent research as that on the nutritional effects of parenteral infection, together with many other good points, make Hess' work distinctly useful to any one exclusively or partly interested in pediatrics.

The appendix, which includes numerous recipes, charts, statistics of infant growth and other things so tantalizingly easy to forget, serves to make the book valuable as a handy reference compend. P. J. W.

X-RAYS AND RADIUM IN THE TREATMENT OF DISEASES OF THE SKIN. By George M. MacKee, M.D., Professor of and Director of the Department of Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital, etc. Second edition, thoroughly revised. Illustrated with 354 engravings and 31 charts. Philadelphia: Lea & Febiger. 1927. Price \$10.00.

The first edition of this authoritative and comprehensive textbook appeared in 1921. The author is not only one of our most expert technicians but an eminent dermatologist and teacher as well, an invaluable combination. The result of his labors is a volume which from the very first has led the field. In order to employ roentgenotherapy intelligently, safely, and to the best advantage, one must know pathology as well as technic, a point which MacKee strongly emphasizes. Modern knowledge and adequate equipment also are essential.

Following the valuable and interesting historical chapters there is graphic and detailed discussion of X-ray apparatus, tubes and tube characteristics, dosage measurement by all recognized methods, the technic of filtered and unfiltered rays, the chemical, biochemical, and biologic effects of X-rays and radium, and detailed instructions for the use of roentgenotherapy and radium therapy in the various disorders in which they are indicated.

Thirty pages are devoted to the medicolegal relations of roentgenotherapy and radium therapy, a subject which is of vital interest to every practitioner. The volume is one which will find a welcome on the desk of every progressive student of scientific medicine.

R. L. S.

EMERGENCIES OF A GENERAL PRACTICE. By the late Nathan Clark Morse, A.B., M.D., F.A.C.S. Revised and rewritten by Amos Watson Colcord, M.D., Surgeon, Carnegie Steel Co., etc. Second edition. St. Louis: C. V. Mosby Company. 1927. Price \$10.00.

This second edition has been entirely revised by Colcord. While the book is written mainly for the general practitioner it may well serve as a reference book for the student. The chapters are well arranged and cover about everything that could be expected in a volume of this kind. It is abundantly illustrated, especially for fracture injuries and appliances for treatment.

The book is well worth a place in any medical library but especially in the library of one who may be located away from the centers of population.

L. H. S.

DISEASES OF THE EYE. For Students and General Practitioners. By Charles H. May, M.D., Director and Visiting Surgeon, Eye Service, Bellevue Hospital, New York, 1916 to 1926, etc. Twelfth edition revised. With 374 original illustrations including 23 plates, with 73 colored figures. New York: William Wood & Company. 1927. Price \$4.00.

This book continues to be the choice of all textbooks on the eye for the beginner or general man. My first volume was a copy of the seventh edition. I find the author has added many new things in this edition and that it is up-to-date.

M. B. S.

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M. A. BLISS, M.D.

ORIGINAL ARTICLES

INTESTINAL OBSTRUCTION IN INFANTS*

MALVERN B. CLOPTON, M.D.
ST. LOUIS

We will consider the various classes of obstruction in their order of frequency.

PYLORIC STENOSIS

In infancy the most frequent obstruction of the intestinal canal is at the pylorus by a hypertrophic stenosis which, in its typical form, gives an almost unmistakable picture. The infant is brought to the hospital in the 5th or 6th week because of protracted vomiting which has become projectile, with marked emaciation and anhydremia, with few or no stools, with gastric waves of peristalsis, and a palpable pyloric tumor. In such a case the diagnosis is easily made and the best treatment is operation. At operation the hypertrophied circle of muscle is divided releasing the constricted mucous membrane.

There is a case quoted where an hypertrophy of a marked grade was noted in a seven month fetus and several cases where it has been found a few hours after birth. Our experience would make us believe that most of these cases have gone through a gradual development that starts with a very narrow but definite band of muscle that eventuates, after some weeks, in the marked condition called congenital hypertrophic stenosis.

Many of these cases have begun to spit up in the first few days after birth, and some time from the second to fourth week there is definite vomiting that gets more and more projectile.

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

In a few of these cases we have operated before they have reached the stage when peristaltic waves are shown or a tumor felt but the general condition of the infant progressing unfavorably due to the vomiting of most of the food despite feeding and medical measures to combat the irritability of the stomach. In one of these early cases operated on the 8th day, the pyloric ring was a narrow band of muscle about the thickness of the old fashioned broad wedding ring, stiff and resistant, and when it was divided showed the same structure as seen in the more pronounced hypertrophies. From this slight thickening we grade on through stages of hypertrophy that correspond in degree to the age of the child and the severity of the symptoms, considering that the greatest tumefaction is seen about the 6th or 7th week. In the fully developed cases the hypertrophy of the circular muscle reaches the size of the end phalanx of one's thumb, the mucous membrane being thrown into folds and so tightly squeezed that no food can get through it when the aggravated stage is reached about the 5th week.

As the pyloric hypertrophy becomes greater the stomach works harder to push the food through, the stomach wall hypertrophies and at times the stomach dilates to what appears to be twice the normal size. These late cases, with stomach dilated and wall thickened, are likely to vomit some of their early feedings after operation, but after they have once reestablished the proper functions they become rapidly restored to health and good digestion.

The nonoperative cures of pyloric stenosis must be largely confined to the cases seen early, before the hypertrophy has reached a size that is unyielding. The early use of atropin until there is physiologic flushing will often overcome the spasm of the musculosa of the stomach so that breast

milk will be tolerated and pass through into the bowel, but in many cases the stomach remains so irritable that it is necessary to make a thick barley gruel of the mother's milk and feed this paste to the baby with a spoon or funnel. The thick food in the stomach is not so easily vomited and will in favorable cases pass through the pylorus after the usual time for digestion, and is more likely to do this if the gastric motor irritability has been reduced by atropin. As it is not possible to make a positive diagnosis between pylorospasm and an obstructing pyloric hypertrophy, we believe that if the treatment outlined above does not relieve in a day or two, operation should be done without further delay. The attitude of the pediatrician should not be to keep these children from operation but to bring them to operation if they do not respond to proper treatment within a few days.

Let me contrast the two methods of treatment by giving a picture of two children in the same family: both presented the same symptoms; the first, a girl, was fortunate enough to be carried through after months of patient care on medical treatment; the second, a boy born two years later, was under the care of another pediatrician who believed in surgical relief. At operation we found a large tumor, which was divided, and the child in a few days was taking the usual feedings for infants. The mother says that no one could measure her relief in being spared the worry and onerous care she went through with her first child. It is interesting to note that from the first year the boy was larger and stronger than his two year older sister.

We have seen two cases with every clinical evidence of pyloric stenosis with definite tumors that got well without operation when the operations which were planned in each instance had to be postponed because of acute respiratory or mastoid infection. These children were carried through the serious infectious illnesses by nourishment and fluid gained from blood transfusions, or glucose and salt injections. The stomach, after a time, reduced its irritability enough for food to pass and when the conditions were ripe for abdominal operations there was less and less need and eventually both children recovered. In both these cases the tumor could not be felt after a month of waiting. Is it not possible that with the lessening of the irritability the hypertrophy subsided? We know from the studies of Scudder and others that in certain cases where a successful result was obtained after gastro-enterostomy the tu-

mor persists for a long time, but we have also studied some cases after gastro-enterostomy where the stoma closed and the food passed through the pylorus in a normal fashion.

Several adults have been operated upon for tumors that have been considered as persisting since infancy. We have one case of a boy who, at 9 years, had a pyloric stenosis operated upon with complete relief by the Fredet-Rammstedt method. He had been considered as a successful case treated by medical measures in early infancy, but vomiting and underdevelopment demanded relief later in life.

One cannot say that all cases presenting similar symptoms have identical lesions, but the theory that the spasm engendered in a case with a small hypertrophy of the pyloric ring is responsible for a progressive building up of the hypertrophic muscle seems tenable, and fits in with the clinical findings that proper medical treatment instituted early before a large tumor is formed may be followed by relief. In event of failure of relief on proper feeding and antispasmodic medication, the proper procedure is to operate.

Up to a few years ago gastro-enterostomy was the accepted operation, but since Fredet in 1910 suggested, and in 1912 published a paper reporting results, and Rammstedt in 1912 independently reported on the muscle splitting operation, the profession has turned to pyloric division as the easiest, safest, and most satisfactory operation.

The pylorus is approached through a right rectus incision about two inches long, placed far enough laterally to get the benefit of the overhang of the low lying liver edge to close off part of the incision. The greater curvature of the stomach is seen and is followed along to the pylorus which is lifted out of the wound and held in place by the left index finger hooked around it. The thickened pylorus shows numerous small vessels coming from below and above, but there is a small avascular area along the upper part of the anterior face. Through this area the hypertrophic tissues are divided in the longitudinal direction. To do this dissection we use a small blunt dissector, which easily incises the peritoneum and muscle. There is little or no risk of puncturing the submucosa with this blunt instrument. When the instrument has severed the hypertrophied muscle and the healthy uninvolved muscle of the duodenum or stomach is reached this instrument fails to divide it. If either the stomach or duodenal musculosa are divided there is usually bleeding which will require a fine liga-

ture, but otherwise the procedure is without bleeding of any sort. With a clamp the divided ends of the hypertrophied muscle are spread widely apart, allowing the submucosa to pout into the wound. The pylorus is then returned into the cavity and the abdominal wound closed. Just before the last stitch in the peritoneum is tied, about 100 to 200 cc. of warm salt solution is put into the abdomen. The closure of the muscle and fascia with catgut is reinforced with several buried silk stitches, as the healing in emaciated infants may be poor.

The preparation for operation is of greatest importance. To overcome dehydration Ringer's solution is given subcutaneously, and in many cases intravenous glucose and whole blood transfusion are given. It may take 24 hours to bring an infant to the place where operation is safe, and on no occasion is this procedure considered a surgical emergency. Operation on these infants is simple and without much risk, and if done before emaciation and wasting are extreme, gives a most favorable prognosis.

The infant is protected against exposure by every precaution of outside covering and using an improvised water bath table.

We use for anesthesia the local infiltration of $\frac{1}{4}$ per cent. novocain in salt solution. A massive injection of from 60 to 100 cc. is made along the line of incision ten to fifteen minutes before operation; much of this solution is absorbed and leaves a painless field. A holeless nipple is kept in the child's mouth and in over half of the cases is busily sucked on without stopping throughout the operation, which lasts about fifteen minutes. The child leaves the operation looking better than when it started.

The results of operations on this class of cases will depend largely on the condition of the child and in our later cases, since we have added blood transfusions and glucose intravenous injections to our preoperative measures, we have reduced our mortality in even the most unpromising cases to a minimum. Taking all cases since the Fredet-Rammstedt operation has been performed we have found 80 operations with 10 deaths; 8 of these deaths occurred in the first 29 cases and 2 deaths in the last 51 operations. Peritonitis has accounted for 2 deaths, one of these a pneumococcus peritonitis not due to the operation, the other case resulting from leakage after puncturing the mucosa; 2 deaths were due to gastro-enteritis, 1 to pneumonia, and 1 to otitis media. The others are not definitely explained. Bowling and Downes report re-

sults in 454 operations with a total mortality of 15 per cent. but in the last 130 cases only 8.5 per cent. mortality. Mixer gave a mortality of 9.5 per cent. in 195 cases. Strauss reports a mortality of 3.2 per cent., which he ascribes to careful preparation with transfusion and glucose.

INTUSSUSCEPTION

The next most frequent cause of intestinal obstruction in infants is intussusception, 75 per cent. of our cases having occurred before the baby is a year old. We have had 22 cases in the last five years at the Children's Hospital and our experience tallies with the work of men who have reported a much larger group of cases.

The most importance must be placed on the diagnosis, as this must be made early to save the child. The only certain means of cure is by operation, and recovery will follow in practically all cases if they are dealt with before 24 hours.

We know no generally acceptable cause for the invagination. Many writers speak of the long mesentery of the ileum and the mobile cecum, but we have not been impressed with this finding. We have studied some of our cases after recovery with the fluoroscope and an opaque meal but Doctor Larimore has been unable to distinguish any notable deviation from the normal child; nor have we seen any reason to believe that intestinal disorders are greatly responsible for beginning the invagination. The striking points in the history have been that the otherwise healthy child is taken suddenly with abdominal pain, which is often instantly followed by vomiting and then apparent relief, later to cry out again and this time may not vomit but seem to recover and rest comfortably. In the beginning there may be an emptying of the lower bowel with a normal stool and all seem well. One of the features that has frequently impressed us is the remarkably good appearance and well being of an infant that has an extensive intussusception. Mucus and blood appear quite early and a most convenient way of getting this evidence is to use a soap stick in the rectum to get the child to have a movement from an almost empty bowel; in a few hours the tell-tale evidence of mucus and blood can be found. The examination of the abdomen in the early stages has always found a soft abdomen, this being so even in cases over 48 hours; visible peristalsis has been a late finding and very rare.

A tumor mass has been noted as early as the 6th hour, located in the right lower

quadrant; another case at 6 hours had a left upper quadrant mass. One case, at 7½ hours, had a midgastric sausage. As the intussusception advances the tumor moves around the arc of the colon and in advanced cases lies entirely on the left side taking the position of the sigmoid and rectum. In one case a mass by rectum was felt as early as 25 hours after the onset. This case, a 5 month infant, was one of two that had the intussusception begin with a Meckel's diverticulum, and this case died because of a peritonitis that had started about the gangrenous bowel. Twelve hours after the first pain the child had copious, bloody stools. The blood in this case may have come from the invaginated diverticulum as noted by Strauss. When the hospital was reached the child was in a depleted and critical condition.

Over three fourths of our cases have started at the iliocecal valve; one had a second invagination at the splenic flexure. The Meckel's cases were of the enterocolic type. A case starting in the ileum without a Meckel's diverticulum remained enteric. It was noted in the enteric case and in one Meckel's case that bleeding was a late symptom.

Strangulation is the most serious complication, the interference of the blood supply by compression as the bowel invaginates being responsible for the major changes in the bowel. In some cases where serious changes have taken place in the bowel wall the condition is of relatively short duration; two of our 9 cases that died showed either a completely irreducible or a gangrenous bowel. On the other hand, a child that had gone 72 hours since the first bleeding by rectum presented an easily reducible and only moderately edematous bowel. Four of our 22 cases had resection, or both ends of the bowel were brought into the wound, but none recovered. Resection in infancy has been attended by an almost 100 per cent. mortality in all reports. A few successful cases of resection in infants have been reported, notably a case by Dowd of a resection for irreducible intussusception in a five day old infant.

Operation on these cases should be done as soon as diagnosis is made. We infiltrate the abdominal wall with a very dilute novocain in normal salt solution, not only for the local anesthetic effect but to introduce as much fluid as possible. The left rectus incision is used if the tumor has gone beyond the transverse colon. After the abdomen is opened a little ether is given while manipulating the bowel. It is usually possi-

ble to slowly carry the intussusceptum backward by squeezing, as some one has said, like squeezing paste out of a tube. Progress in all cases is usually free until the ascending colon below the hepatic flexure is reached. If the case is recent and the edema is not much one may go on to complete reduction, but it is often necessary, as the ascending colon is reached, to draw the tumor out of the abdomen and apply hot compresses and wait a few minutes. It is surprising how seemingly hopeless conditions improve and reestablish their circulation so that enterostomy or resection is avoided.

The chance of recurrence is not great although some authors place it as high as 10 per cent. We have seen no recurrence in our small series. The only method we use to possibly prevent recurrence is to put two fine catgut sutures through the mesentery of the terminal ileum attaching it to the lateral longitudinal band of the ascending colon.

The wound is closed with a few silk stitches reinforcing the catgut, as indicated in the pyloric stenosis cases.

As the postoperative course is likely to be followed by an intense intoxication subsequent to the release of the contents of the static bowel and products of the degenerative changes in the cells of the bowel wall that has been in partial strangulation, the great effort must be made to dilute these poisons by saline and transfusions. If the child survives the first 12 hours after operation the risk of abdominal lesion is past but many apparently favorable cases have subsequently died of pneumonia.

Of our 23 cases 14 have recovered, 9 died.

To reiterate, let it be emphasized that the deaths after intussusception are because the cases come to operation too late, mostly due to the failure to make an early diagnosis.

Results in cases seen before 12 hours after the onset are always followed by recovery; after 24 hours the mortality mounts as the hours increase. Operation offers the only sure relief and if done early is a simple procedure.

CONGENITAL ATRESIAS AND ANOMALIES

This group represents cases that have symptoms from the hour of birth and usually they come to operation in the first few days. In the 15 cases in this group there is no regularity of lesion and classification is difficult. Some conditions are very simply relieved by operation, others are hopeless

and one cannot foretell what one is going to encounter.

A classification of Forssner, amplified by Spriggs,¹ follows: (a) Simple narrowing; (b) perforated diaphragm; (c) complete diaphragm; (d) short band connecting end of bowels; (e) threadlike band along free edge of the mesentery, the ends of the bowels being some distance apart; (f) a gap in the mesentery also, there being no direct connection between the ends of the bowel.

We have had two cases of perforated diaphragm of the duodenum, both of which recovered after operation. We have also had one duodenal complete occlusion or atresia, which recovered after a lateral duodenojejunal anastomosis. Obstructions in this portion of the bowel are considered as most frequent by some authors, but whether this is so or not they have, in our experience, given the most favorable results provided there is no further atresia in the bowel lower down. Most of the atresias we have seen have affected the bowel in several places and any relief from surgery is almost hopeless. We have seen one case of a simple narrowing of the ileocecal valve which gave a most satisfactory result by plastic suture.

Landau² places the jejuno-ileal junction first in frequency, the duodenum next, and the large intestine, except for the defects of the rectum and anus, last. Quinlan³ believes that a ratio of one to four exists between intestinal atresia and imperforate anus.

Vomiting is the most important symptom and it comes on soon after birth. It is usually bile stained which distinguishes it from pyloric stenosis vomiting. The intestine above the obstruction usually is dilated and even shortly after birth may give a clear pattern with visible peristalsis. The type of figure and the peristalsis often give a clue to the lesion. We find that an X-ray plate without using any opaque meal gives a great deal of information as to the seat of trouble.

Stools come in cases where the lower bowel is large enough for it to contain sufficient meconium and mucus to evacuate. Urine is secreted in proportion to the amount of fluid absorbed from the intestine. Icterus is of no immediate significance.

The outlook in this group of cases cannot be very bright but it is far from hope-

less. There have been 15 cases operated with 5 recoveries. The greatest stress should be laid on early diagnosis. New-born infants stand extensive operation very well. If the correction of the lesion is mechanically possible the risk from operation is not unreasonably great, provided the child has not been too badly depleted. Consultation of pediatrician, surgeon and roentgenologist should be shortly after the first evidence of any disturbance. In the last group, made up of anus and rectal atresias, there is rarely any delay in calling a surgeon and relief is obtained often by merely dividing a thin membrane. If the rectum is not opened through a simple incision a further search for the terminal colon often necessitates a laparotomy.

912 Beaumont Medical Building.

TULAREMIA

REPORT OF TWO CASES

M. GEORGE GORIN, M.D.

ST. LOUIS

Tularemia occupies a unique place in the history of human medicine in that it furnishes the only instance in which American investigators alone have discovered a disease of man, isolating its causative agent, determining its source of infection, its modes of transmission to man, and otherwise elucidating many essential problems connected with the complete knowledge of a disease.

As early as 1910 McCoy, working in the U. S. Public Health Service, discovered what he termed "a plague-like disease of rodents" occurring in many western states, particularly in Tulare County, California, hence the name of the causative agent, *Bacterium tularense*. Owing to lack of funds and personnel and the advent of the World War investigations were not resumed until 1919. In 1920 Francis discovered the disease in seven human cases. During the years 1924, 1925 and 1926 the number of cases reported increased from 15 to 323, and the number of states reporting cases from 6 to 34. In a recent personal communication from Dr. Francis he states that 500 cases have been reported up to January, 1928, seventy-nine of these between Thanksgiving Day, 1927, and January 7, 1928, with a mortality of 20 in the series of 500.

Tularemia had been considered exclusively an American disease until in 1925 what was called "Ohara's disease" in Japan was definitely proven to be identical with tularemia. Ohara's disease was discovered

1. Quoted by Bryan: Congenital Occlusions of the Small Intestine. *Am. J. Surg.* 37:297 (Dec.) 1923.

2. *Deutsche med. Wchnschr.* 56:1195, 1920.

3. Congenital Malformations of the Intestine, Atresia and Imperforate Anus: 27 cases. *Boston M. & S. J.* 87:870 (Dec. 14) 1922.

in Japan some three years subsequent to Francis' discovery of tularemia in America. The disease is unknown in Europe.

Shortly after the discovery of tularemia the Lister Institute in London requested the United States Public Health Service to send a culture for experimental purposes to their laboratory. This was done and very promptly three of the laboratory workers were infected with the disease. The Lister Institute then ordered all cultures and infected animals to be utterly wiped out. Since then there have been no cases reported from England. The incidence of tularemia in laboratory workers on this disease is truly remarkable. In the Hygienic Laboratory at Washington every one of the workers has contracted the disease (six in number). All those in the branch laboratory at Hamilton, Montana, were also infected. These also were six in number. All have recovered and thereby rendered immune. The disease as contracted in the laboratory generally appears as the typhoid type, without any apparent atrium of infection on the skin.

The fever in tularemia is generally of a moderate degree lasting about two weeks. Recovery from the disease usually occurs without sequelae. The most virulent attack of tularemia so far recorded was that which occurred in a family of five in the rural districts of Virginia. The father, a son and two daughters were infected. On the sixth day the son died and on the eighth day the father and one daughter died. These cases were of the conjunctival type with cerebral involvement. Positive reaction for tularemia was found in the surviving daughter. The mode of infection in these cases was thought to be from eating rabbits which had been insufficiently cooked.

Drs. McLaughlin and Jones, Marine Hospital, St. Louis, reported before the St. Louis Medical Society a case of tularemia occurring in December, 1925. Dr. Geo. Epp after listening to the discussion of this case forwarded to the Hygienic Laboratory at Washington, blood from a case presenting a similar clinical picture. This was reported positive. Both of these cases were of the glandular type with suppurating axillary glands. No doubt, in the absence of laboratory confirmation, many cases of tularemia have been overlooked, cases of axillary adenitis with mild degree of fever, with or without demonstrable lesion of the hand being treated as ordinary staphylococcus infection.

REPORT OF CASES

Case 1. On December 13, 1927, I was called to see Mrs. Fred S., St. Louis County. The patient, a woman of 44 years, wt. 150, ht. 5 ft. 5 inches, previous history of excellent health, was confined to bed, complaining of general aching of body and limbs, nausea and headache. Face flushed, skin hot and dry. No eruption visible. No catarrhal symptoms of throat or nose. Thorough physical examination failed to elicit any pathological signs. Temperature 102.5, pulse 108, respiration 20. She had been taken ill only a few hours previous to my visit and gave a history of being seized with a severe chill while at work about the house. Diagnosis, acute infection of undetermined origin. Treatment, expectant, symptomatic. On the morning of the second day her condition was much the same with a temperature of 102.8. She then called my attention to her right thumb which she said had begun to pain during the night. On examination I found on the dorsal surface of the distal joint of right thumb, some 6 mm. from the base of the nail, a papule about 6 mm. in diameter, with beginning necrosis of the apex. Exploring gently with a small cataract knife no pus was found. The lesion in fact presented a rather subacute appearance and lacked the angry, red and swollen aspect of an acutely inflamed joint. I was puzzled to account for the severe pain in the thumb of which she complained.

The peculiar appearance of this lesion together with her unexplained temperature suggested to me the possibility of tularemia, and in response to my inquiry she informed me that she had dressed some rabbits on the ninth of December, four days prior to her illness, but that the thumb was not painful until the fourteenth. The rabbits which she had dressed had been brought to her by a relative in St. Charles County.

Here then were three points on which I based my diagnosis of tularemia: (1) unexplained temperature; (2) lesion of the thumb; (3) history of dressing rabbits. The fourth point, viz., adenitis, was carefully searched for but did not appear until the beginning of the third week, when the axillary glands showed distinct enlargement. At this time the patient was up and about and the temperature had been normal for about one week. To be exact, the fever lasted just twelve days. In the meanwhile the thumb lesion, treated daily with applications of mercurochrome and kept in hot saline bath, sloughed away in the center leaving a punched-out appearing crater which sluggishly granulated over. On January 19 there appeared in the right vulvovaginal region a small filbert sized abscess, which promptly subsided after incision. On January 24 the axillary swelling was frankly fluctuating and incision evacuated about 100 cc. of pus of a milky consistency. Since the disappearance of fever the patient has been free from general symptoms. Blood sent to the Hygienic Laboratory at Washington, January 7, was reported positive tularemia, Dil. 640.

Case 2. On November 22, 1926, Mrs. C. D. S., St. Louis, housewife, aged 38, wt. 175, ht. 5 ft. 5 inches, consulted me on account of a very sore thumb (left hand), also a slight sore in the palm of the same hand. She gave a history of having recently used mineral wool in removing paint from an article of furniture and thought she had injured her hand in that manner. My examination tended to corroborate this statement for I removed from the radial border of the thumb nail a small fragment of wire; also a small amount of pus. This patient also gave a history of having handled rabbits but claimed

that her thumb was sore and that there was axillary tenderness before she had dressed the rabbits. Misled by this statement and by the fact that I had found a fragment of wire, blood was not examined for tularemia at this time. Wassermann test was negative. Fever continued from 101 to 103 for about two weeks. Axillary enucleation done on December 24, 1926. A large mass of glands removed, the largest broken down and suppurating. Patient made uneventful recovery.

On encountering Case No. 1 in December, 1927, I was struck by the similarity of symptoms as exhibited in this case (seen in November, 1926) and determined to send the blood to Washington for examination. This was some fourteen months subsequent to her acute symptoms. The report returned was "Positive for tularemia, dilution three hundred and twenty." This test was made February 2, 1928. A supplementary report from Dr. Francis under date of February 4, 1928, states: "Serum of Mrs. S. forwarded with your letter of January 31, was tested February 2 and was found to agglutinate *Bacterium tularense* in all dilutions from 1-10 to 1-640. This titer, obtained after standing over night (standard procedure) is higher than 1-320, reported by telegraph February 2 at the end of three hours."



Fig. 1. Case 1. Showing characteristic punched-out appearance of lesion, seven and one-half weeks after onset. (Taken February 4, 1927.)

This is a very interesting statement inasmuch as it shows that the blood from Case No. 2 taken fourteen months after the onset of symptoms still shows the same power of agglutination as that of Case No. 1 taken in the acute stage of the disease.

Dr. Edward Francis, Surgeon, Hygienic Laboratory of the United States Public

Health Service, who discovered the disease in humans, has found positive reactions as long as eighteen years after the acute attack and he thinks it probable that the in-



Fig. 2. Case 1. Showing enlargement of axillary glands, seven and one-half weeks after onset. Note point of incision still draining. (Taken February 4, 1927.)

fection remains in some degree throughout life. In the De Lamar Lecture, Series 1926-1927, Johns Hopkins School of Hygiene and Public Health, Dr. Francis delivered an address on the etiology of tularemia in the course of which he said:

Physicians, on reading the recent articles on tularemia have now looked backward and have plainly recognized the clinical picture of the disease in cases of illness for which at the time no description could be found to fit. Fortunately, those observations of years before are capable of present-day verification because of the persistence of anti-tularense agglutinins in the blood serum of long recovered cases of tularemia. Physicians have recently sent to the Hygienic Laboratory for agglutination test serums from the following cases which constituted diagnostic puzzles to them at the time of illness in years gone by.

18 years, 3 months: W. L. B., patient of Dr. W. L. Brosius, Sr., of Missouri; onset in October, 1909, positive (1:160) January 25, 1928.

18 years: G. W. W., patient of Dr. Ancil Martin, Phoenix, Arizona; onset in July, 1907, positive (1:20) July 10, 1925.

12 years: I. D. L., patient of Dr. Tom Kirkwood, Lawrenceville, Illinois; onset in 1914, positive (1:20) December 29, 1926.

11 years: H. H., a patient of Dr. V. M. Brian, St.

Francisville, Illinois; onset in November, 1915, positive (1:80) December 30, 1926.

11 years: J. I. B., a patient of Dr. C. E. Harris, Basin, Wyoming; onset in 1915, positive (1:160) August 13, 1926.

10 years: L. C. W., a patient of Dr. C. E. Harris, Basin, Wyoming; onset in August, 1916, positive (1:40) September 15, 1926.

10 years: Mrs. H., a patient of Dr. C. E. Harris, Basin, Wyoming; onset July 26, 1916, positive (1:40) July 23, 1926.

10 years: R. C. E., a patient of Dr. C. D. Carter, Thermopolis, Wyoming; onset in July, 1916, positive (1:80) August 16, 1926.

10 years: J. N. B., a patient of Drs. Lamb and Cromwell, Gooding, Idaho; onset in spring of 1914, positive (1:40) partial (1:80) April 26, 1924.

7 years: Mrs. E. H., a patient of Dr. Tom Kirkwood, Lawrenceville, Illinois; onset November 24, 1919, positive (1:80) November 24, 1926.

6 years, 4 months: J. M. D. and Mrs. J. M. D., patients of Dr. C. H. Davidson, Lexington, Virginia; onsets November 11 and 12, 1920, respectively, both positive (1:40) March 25, 1927.

3 years, 6 months: E. T., patient of Dr. W. S. Kerlin, Shreveport, Louisiana; onset July 22, 1923, positive (1:80) January 31, 1927.

I have reported these cases, not with the idea of shedding any additional light on our knowledge of tularemia but rather for the purpose of emphasizing the fact that the disease does exist in this locality and also to illustrate the ease with which the diagnosis may be overlooked. The disease has been mistaken by clinicians for "flu," typhoid and sporotrichosis, by serologists for undulant fever, and by pathologists for tuberculosis, according to the discoverer, Dr. Edward Francis. In the diagnosis of tularemia four cardinal points must be borne in mind:

1. History of handling rabbits
2. A "sore" on the hands
3. Continued fever
4. Enlargement of lymphatic glands draining affected area.

The presence of any three of these symptoms should lead one to have the blood of the patient examined for tularemia.

According to their clinical manifestations, four types of tularemia have been described. They are: (1) Ulceroglandular; (2) glandular; (3) oculoglandular; (4) typhoid.

In the first type, which is by far the most prevalent, an ulcer, usually on the fingers or hand, with axillary glandular swelling and a temperature lasting about two weeks, are the cardinal symptoms. In the second type the same symptoms occur only with absence of any noticeable ulcer. In the third type severe conjunctivitis, with papule of the lid, together with enlargement of neighboring lymphatics. In the fourth type neither glandular enlargement nor ulcer appears, but patient runs characteristic tem-

perature. This latter type has generally been noted only in laboratory workers on this disease. Inasmuch as about 80 per cent. of the cases so far reported have been ulceroglandular in type it would behoove the physician to note with especial suspicion any lesion of the hand accompanied by fever and glandular swelling and to have such cases tested for tularemia. Let him also hark back in his records to any case presenting such a train of symptoms, even though it may be fifteen or twenty years, and if possible send a specimen of that patient's blood for examination.

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BIBLIOGRAPHY

1. Francis, Edward: Tularemia, *Atlantic M. J.* **30**:337 (March) 1927.
2. Francis, Edward: Tularemia, *Arch. Path. & Lab. Med.* **3**:577-607 (April) 1927.
3. Public Health Reports, **42**:No. 5 (Feb. 4) 1927.
4. Freese, H. L.; Lake, G. O. and Francis, Edward: *Public Health Reports*, **41**:No. 9 (Feb. 26) 1926.

EPIDEMIC ENCEPHALITIS*

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ST. LOUIS

Encephalitis is manifested clinically by a wide variety of symptoms. Etiologically, we may say that it arises from an almost equal number of causative factors. While it is very difficult to arrive at what may be termed a satisfactory classification a workable one may be listed as follows:

CLASSIFICATION

1. Encephalitis occurring in the course of any disease of the brain (syphilitic, tuberculous, meningococcic and purulent meningitis).
2. Encephalitis occurring in the course of acute anterior poliomyelitis (poliomyeloencephalitis).
3. Encephalitis occurring in the course of infectious diseases (measles, scarlet fever, whooping cough, diphtheria, chickenpox, pneumonia, malaria, influenza and intoxications). Acute, nonpurulent or hemorrhagic encephalitis occurs most frequently in infants but is rarely seen in adults.
4. Polioencephalitis acuta hemorrhagica superior, or acute alcoholic polioencephalitis.
5. Acute serous encephalitis.
6. Epidemic encephalitis.

Prior to 1917 the classification of the encephalitides did not include the sixth or last one listed above. Since that year, however, a new offspring has arrived and has been named epidemic encephalitis. It has proven

* Read before the St. Louis Medical Society, October 18, 1927.

a precocious child for, although born into the medical world merely one decade past, it has far outdistanced each of its older brothers in point of variegated symptoms, epidemiology and sequellae. It has invaded practically all parts of the civilized world and has attracted more attention and study than the combined first five members of the group. Because of this it has come to pass that the term encephalitis, unless otherwise qualified, means to the average physician only one type and that is the epidemic form.

In this brief communication we will attempt to give a resume of some of the outstanding points that have been developed during the past ten years of a world-wide intensive study by many of medicine's foremost pathologists and clinicians.

It is well to state at the outset that this, like numerous other disease entities, has unfortunately been misnamed, being called lethargic encephalitis. This appellation merely designates one type of epidemic encephalitis. For the convenience of the lay public this was soon translated into "sleeping sickness." It would be equally proper to so designate the lethargic and somnolent stages of the other encephalitides, acute infectious diseases and many others too numerous to mention. Because of this misnomer, epidemic encephalitis has been confused by the lay public with trypanosomiasis which had heretofore also been termed sleeping sickness.

Trypanosomiasis is rarely observed outside of Africa and is seldom seen in the white man. It is due to a parasite, the trypanosome, commonly found in animals and transmitted by the bite of the tsetse fly. The onset and symptoms are unlikely to be confused with those of epidemic encephalitis. This is mentioned in passing because of the fact that the lay press has within recent months frequently heralded a discovered cure for sleeping sickness by a physician studying this disease in Africa. Some persons floundering in a sea of hopelessness, have grasped this straw and applied to the writer for the treatment, thinking that it was for the disease with which they or their relatives were afflicted.

Henceforth in this paper, the term encephalitis, unless otherwise qualified, shall mean the epidemic type.

HISTORICAL

It would be fallacious to presume that this disease has appeared suddenly and unheralded from a clear sky to spread so rapidly over the entire civilized world within the short period of ten years.

The occurrence of prolonged and profound

sleep in connection with epidemic diseases is not new in medical history. Such somnolence has been described in connection with many epidemics of influenza since the earliest time. Many observers agree that during the last two hundred years we have had several epidemics of encephalitis. Crookshank attempts to trace it back to the time of Hippocrates. He calls attention to the fact that during the last four hundred and fifty years there have been a number of epidemics in many countries of Europe in which there is apparently a confusion of encephalitis, poliomyelitis and influenza. Zuelzer reports the fact that in an epidemic of influenza occurring in 1712 profound sleep was so frequent and pronounced a symptom that the disease came to be known as sleeping sickness and was attributed to the eating of poisonous food.

In 1892 Languet, gave an account of a mysterious disease known as "Nona" also "Nonna." This was said to have occurred especially in northern Italy and Hungary and to be characterized by lethargy and weakness. A more recent epidemic of lethargic encephalitis in Vienna was described by Von Economo in 1917, in which the diagnostic criteria consisted of the triad, somnolence, ophthalmoplegia and profound asthenia. Netter reported a similar outbreak in Paris in 1918. The report of an obscure disease, encephalitis lethargica, was made by a commission in London in 1918.

In the winter of 1918 and 1919 the first cases were recognized in America and, as had happened in other countries, it was several months before there was a general recognition of the exact nature of this "sleeping sickness."

At no time in world history has there been such extensive intercommunication and direct mingling of peoples from practically all nations and races as was brought about by the international conflict which was in progress during the spread of this disease from Austria to France, to England and to America.

It is logical to conclude that this is not a new disease, but an epidemic attracting more widespread recognition and more careful study than in the past.

Our knowledge of the epidemiology of encephalitis is meager but for all practical purposes and until otherwise disproven, it must be regarded as an infectious disease, probably communicable and distributed throughout all age groups. The greatest incidence however is during adult life.

ETIOLOGY

Theories have been advanced as to the etiology of this disease. A few are as follows: (1) That it was due to food poisoning.

(2) That it is a mutated form of influenza. (3) That it is one of the sequellae of influenza. (4) That it is caused by the same agent as poliomyelitis. (5) That it is caused by a specific organism.

If the symptoms were due to food poisoning we would expect to find greater numbers afflicted in the same families and groups deriving their food from the same source. In a study of the familial incidence in a large group it was found that in a little over one-half of one per cent. did the disease occur in two members of one family.

Those who are of the idea that it is a mutated form or one of the sequellae of influenza, advance as the reason for this theory the fact that both diseases occurred about the same time. On the other hand the Vienna epidemic antedated the influenza. In England the time of the epidemics of encephalitis and of influenza more nearly coincided. In the United States the encephalitis followed the influenza. In none of the series of cases studied were they able to secure a sufficiently large number of histories of previous attacks of influenza or exposure to influenza to justify the belief that there was any connection between the diseases.

There are many differences in the epidemiology of poliomyelitis and encephalitis. Encephalitis is distributed in all age groups from one to seventy-five years of age, the greatest incidences being during adult life. Poliomyelitis is found, for the most part, among children under ten years of age. Encephalitis occurs in all seasons while poliomyelitis is more prevalent in warm weather. If both were caused by the same organism we would expect more encephalitis during poliomyelitis epidemics and more poliomyelitis during encephalitis epidemics. As it is, we seldom find the two thus combined.

Although there is reason to believe that this disease is caused by some specific organism or by a toxin, thus far no one has been able to isolate it. Many investigators have reported organisms with which they claim to have caused clinical and pathological changes similar to those of encephalitis. Along this line, much study and research remains to be done.

SYMPTOMATOLOGY

Time does not permit an extensive consideration of the clinical manifestations of this disease or to discuss an elaborate classification. It will suffice however to catalog and make a few passing remarks on the more frequent signs and symptoms. These manifestations may be psychic or physical, usually psychophysical. The psychic disturbances present the general characteristics of an acute organic

type of mental reaction corresponding to the toxic infectious psychoses.

In the acute stages, pathological sleep, delirium and mood alterations are more pronounced. The Korsakoff syndrome may be encountered. This acute mental state tends to recede as the early stage of the disease passes. As a rule no marked mental reduction, intellectual impairment or dementia occurs, but we do frequently note persisting emotional alterations. Often retarded responses to questions, caused by slowed motor reactions, are misinterpreted as mental symptoms and as a consequence we may find such a patient, although quite clear mentally, institutionalized with psychotic cases.

The physical or neurological manifestations are protean and may simulate any one of many organic neurological diseases.

It is well to mention here that encephalitis like practically all other diseases may have a functional element or so-called "functional fringe."

The onset of epidemic encephalitis is sudden and usually occurs without the development of prodromata. In some cases however there may be a short prodromal period characterized by headache, general malaise, transitory or persistent diplopia, asthenia, slight chilliness and a rise of temperature. This may last for several days and is often diagnosed *la grippe*. The patient may exhibit frequent, often almost continuous, yawning and gradually sink into a lethargy which is most frequently characterized by a profound somnolence approaching stupor from which he may be aroused sufficiently to take nourishment automatically and then lapse into the deep sleep again.

At times restlessness may replace the lethargy, leading the patient to feel that it is impossible to get the body or limbs into a comfortable position. The writer has seen a boy, fifteen years of age, who during the restless stage reported that he had not slept for several weeks.

A large percentage of cases show involvement of one or more of the cranial nerves. Pathological reflexes may or may not occur, but it is the opinion of the writer that they are present in a majority of cases.

Some may show a form of catalepsy, an unusual form of hypertonus of the muscular system.

The spinal fluid usually furnishes no diagnostic aid other than practically normal reactions, and cytology helps to exclude anterior poliomyelitis, meningitis, cerebrospinal lues and such other diseases as do show positive findings.

The acute stage which in most cases is rep-

resented by the prodromal and lethargic periods may last for weeks or even months, the average being about six to eight weeks. Following this comes the period of asthenia in which every movement seems an effort and rapid fatigability is present. As time passes there develops a gradual limitation of movement due to a type of muscular contraction. In some cases a tremor develops and with the muscle rigidity presents the picture of paralysis agitans, the Parkinsonian syndrome. Formerly the Parkinsonian syndrome was considered a post-encephalitic phenomenon, but recent studies of the pathological changes and progressive nature of the clinical manifestations have convinced many that it is a chronic encephalitis.

Thus far we have considered a more or less typical course of the disease. There may be and often are variations, such as paralysis, epileptiform seizures, choreiform movements, but again we are reminded that our time for this presentation is brief and they can only be mentioned in passing.

DIAGNOSIS

One should be cautious before arriving at a definite diagnostic conclusion. Epidemic encephalitis may mimic very closely any one of many neurological and psychiatric conditions.

Among the infectious processes with which the disease is likely to be confused are (1) meningitis, (2) influenza and la grippe infections, (3) anterior poliomyelitis, (4) multiple neuritis, especially the infectious form, (5) typhoid fever, (6) tetanus, (7) hydrophobia, and (8) other forms of encephalitis.

Among the intoxications which may closely resemble epidemic encephalitis with somnolence may be mentioned (1) uremia, (2) acidosis, (3) cholemia, (4) drug intoxications (veronal cocain, alcohol, etc.), and (5) botulism.

The vascular lesions most likely to cause confusion are (1) cerebral hemorrhage, (2) cerebral thrombosis, (3) cerebral embolism, (4) sinus thrombosis, and (5) cerebral arteriosclerosis.

Other conditions to be differentiated are cerebrospinal lues, demetia paralytica, tabes dorsalis, myoclonias, chorea, Parkinson's disease, cataleptic or catatonic states, myesthesia gravis, progressive central muscular atrophy, hysteria and neurasthenia.

Though epidemic encephalitis may simulate any one of the above, the mode of onset, the cause, and the results of carefully conducted neurological and psychiatric examinations, will usually yield the diagnostic criteria sufficient for its recognition and differentiation.

PROGNOSIS

The prognosis as to life is not generally considered grave as only about ten to twenty per cent. die during the acute stages. Of the remaining eighty or ninety per cent., very few escape without some continued neurological manifestations ranging from pupillary changes and abnormal reflexes to the advanced stages of the Parkinsonian syndrome.

MORBID ANATOMY

The gross appearance of the brain usually shows marked congestion. The large vessels and capillaries are engorged. Free blood is seen in the sulci and occasionally minute hemorrhages over the gyri, but massive pial hemorrhage is seldom seen. The pia mater frequently appears edematous. The dura mater usually shows no lesion. The meningeal congestion is most intense over the brain stem and least over the cerebellum. On section the cut vessels are everywhere prominent, both in the brain and cervical cord but especially in the gray matter of the basal ganglia, midbrain and pons. The tissue is uniformly softer than normal.

Microscopically the most striking type of lesion is cell infiltration. The vessels chiefly affected are small veins but larger veins, arteries and capillaries are not immune. The cells are mostly mononuclear lymphocytes, plasma and large mononuclear cells. These cell infiltrations are confined to the vessel walls and perivascular spaces. This process is most intense and most extensive in the gray matter of the basal ganglia, midbrain, pons and medulla, and the cervical cord. The region about the aqueduct of Sylvius is most affected. The vessels are affected in a patchy manner. The second most striking type of lesion is the diffuse infiltration of nervous tissue. The cells are scattered through and intermingling with the fixed cells and fibers. This is usually most intense near the substantia nigra.

Microscopically, hemorrhage into the perivascular spaces is frequently seen but rarely spreads into the nervous tissue.

The nerve cell shows relatively little evidence of degeneration. Neuroglia cell proliferation is said to be very considerable in and about areas of intense cellular invasion. In cases of long standing the vessels show thickened walls and thrombi and neuroglial proliferation is usually marked. In the advanced cases, sclerotic areas similar to those seen in multiple sclerosis are found.

TREATMENT

Not knowing the causative factors involved in the pathogenesis of epidemic encephalitis, it

is impossible to outline a rational therapy. There likewise seems no basis for a rational preventive therapy other than a nonspecific one applicable to all diseases of infectious character.

The principle of treatment is essentially symptomatic but some therapeutic defense should be instituted to combat the supposed causative or exciting agents and to build up the psychophysical resistance. Many substances, such as acriflavin and methenamin, have been used to combat the infection. Freeman reports the salicylates as standing foremost. Elimination is important; the bowels and kidneys should be kept active and flushed out as much as is possible. Liquids should be pushed.

Repeated lumbar puncture has been advocated, especially in excited cases and those showing signs of meningitis. Attempts have been made to produce a specific antiserum but thus far the therapeutic results obtained have been practically no different from those obtained from injections of milk, colloidal silver and other like preparations. Some therapists have reported favorable results following the intravenous injections of glucose solution.

After the acute stage has subsided efforts should be toward removing all known foci of infection and to building up the general resistance by drug, physiotherapy and psychotherapy. To consider the many therapeutic endeavors and discuss their merit or lack of merit would alone furnish material for a most extensive paper. For this reason, no reports or suggestions upon the merits of any particular methods of combating this disease can be presented here.

In conclusion we must remember that a great deal of study has been given to this disease, much useful information gathered by workers throughout the medical world and in spite of this there is very much more to be done, some of which I am confident will come within the near future.

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RECTAL FISSURE*

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A great many people suffer from rectal fissure. Some of them are actually incapacitated by this condition. In the acute stage it is the most painful of all the rectal lesions and is more prone to recur than any of the rectal lesions.

Ordinarily the treatment is quite simple,

but simple treatment will not cure all cases. Certain types of rectal fissure urgently demand operative interference; the milder types, however, can be easily handled in the office or in the ambulatory clinic.

Some fissures are distinctly secondary to other causative factors and until these causes are removed the fissure will not heal under any type of local treatment.

Symptoms. Symptoms depend altogether on the type of fissure and the causative factor. In establishing a diagnosis it is important to write a careful history. In nearly all rectal lesions one is able to make a diagnosis from the history of the case before the examination is made.

It is important to begin with the first symptom. Establish the date and period of time that the patient has been suffering. Not infrequently the history of the first attack will make the diagnosis.

At this time it is well to mention the routine procedure for rectal examination. Everyone suffering from rectal trouble is afraid of being hurt. It is well to gain the confidence of the patient, explaining to him that every means possible will be used to prevent pain during the examination. The most comfortable position is that of the modified Sims, the patient reclining on his left side, the right knee drawn up, the patient grasping and elevating the right buttock. One should first note the general appearance of the skin about the anus, signs of swelling or inflammation, fistulous openings or any other abnormality.

The second stage of the examination calls for a general palpation of the perirectal region particularly the sacrococcygeal region, the anterior perineum and, in the female, the lower labia. Before introducing the finger or any examining instrument, the buttocks should be gently separated and the patient should aid by gently straining. In this way one is able to see well up within the anal canal. Nearly all fissures can be seen by this method. Again, the finger and examining instrument should never be introduced after the diagnosis of fissure has been made until the acute stage has subsided, when one is sure that no pain will result from the examination.

The most prominent symptoms of fissure in ano are severe pain on defecation, intense burning, sphincteralgia and occasional bleeding. The patient has frequent recurrent attacks at varying intervals. These attacks usually develop following a period of constipation and are first noticed by a slight stinging pain which becomes an in-

* Read by title at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

tense burning and aching sensation within twenty-four hours.

Pathology. Ninety-five per cent. of all fissures occur at the posterior commissure of the rectum. This is variously explained as the point of least resistance of the circumference of the rectum, the point of least blood supply and the point of greatest straining at evacuation. Whatever may be the causative factor, it is evidently concerned in this particular location for this is where we find rectal fissure. The true rectal fissure is really an ulcer. Small slit-like lacerations extending from the mucocutaneous margin a short distance longitudinally up into the anal canal are frequently seen. These constitute the simple uncomplicated fissure and are prone to heal rapidly. The symptoms are comparatively slight and the recovery is complete within two to four days.

The second or chronic type represents an ulcer occurring in the posterior commissure extending well out on the skin margin and, in at least fifty per cent. of the cases, capped by a proliferation of the skin and granulation tissue known as a "sentinel" pile. The inner limit of this fissure is at the anorectal line, at the crypts of Morgagni. The base of the ulcer is lined with red granulations and the margins are infiltrated and overhanging. The ulcer bleeds with the recurrent attacks of pain. The patient is scarcely ever free from some soreness.

The sphincter muscle is never relaxed and for this reason chronic, neglected fissures are prone to be secondarily complicated by hemorrhoids. The chronic fissure or ulcer is a favorite site for a beginning fistula. Fistulae may appear in either right or left perianal region or both, originating at a common center in the posterior fissure. In this connection, it is well to remember that it is never necessary to cut the sphincter muscle to cure this type of fistula. The base of the fistula may extend completely through the mucosa and rest on the sphincter muscle. The sphincter muscle may be covered with granulations but is not deeply invaded by an ulcerating process.

Two points in particular in the pathologic picture which complicate the chronic ulcer must be borne in mind. First, that not infrequently a deep tearing through the bed of the fissure will result in healing across the top, leaving a fistulous tract with its internal opening at the rectal crypt and the external opening any place throughout the length of the floor of the ulcer. Second, that underlying the sentinel pile, a fistulous process may develop and burrow

out under the skin. In this particular type of blind fistula an external opening rarely develops inasmuch as the internal opening beneath the well developed sentinel pile is sufficiently large to allow for free discharge of pus. The treatment of these two conditions will be referred to later.

Syphilitic fissures are not infrequently seen and may occur within a few months following the primary lesion or maybe a part of the secondaries. They have a tendency to bleed, cause pain and develop recurrent attacks just as the ordinary ulcer does. They have the same tendency to locate in the posterior commissure and they will not respond to the usual method of treatment. They do respond very quickly to the routine antileptic treatment.

Tuberculosis is seen in at least 3 per cent. of all cases, having about the same ratio as tuberculous fistula has to ordinary fistula. The chronic ulcer of tuberculosis is even more prone to form fistulous burrowing tracts than the nontuberculous. Fissures may be secondary to all dysenteries.

The mucocutaneous margin in the thickened skin of pruritis ani is often broken down into one or several simple fissures. Fissures occur about the anus in granuloma inguinalis or tropical sores, also in syphilitic condylomata situated about the anal margin. Simple fissures whether single or multiple may be the outstanding cause for severe pain following over zealous efforts in dilating the sphincter preparatory to any rectal procedure.

To get the best general idea of what is taking place during the acute exacerbation (that is during the midst of a painful attack of fissure in ano) it is well to remember that there is both local and general wide spread inflammation.

The local inflammation consists of the infection or reinfection taking place through the floor of an acutely lacerated ulcer. There is present an active round cell infiltration, edema, redness and swelling. As a result, there is a reflex spasm of the sphincter muscle. Any attempt at local examination is intensely painful.

The other involvement is due to the widespread lymphatic distribution. The entire lymphatic system of the pelvis is involved and that is why the patient has intense bladder pains. Pains revert down to the thighs with any active movement of the legs and general aching throughout the inguinal region is present.

Several cases have been reported where an actual bubo has formed secondary to anal fissure. It is very important to keep

in mind this wide spread distribution of inflamed lymphatics when one considers the treatment. The same general idea is carried out as in any other type of lymphatic involvement, namely, the use of heat in the form of local applications and hot Sitz baths for the general lymphatic involvement. With involvement of the lymphatics about the neck of the bladder, not infrequently the patient will experience great difficulty in urinating and occasionally on account of the painful spasm and the distress brought on by a distended bladder, it will be necessary to resort to catheterization. For some unknown reason, venous thrombosis, the accompanying septicemia and secondary liver abscesses are not a part of the picture. The lymphatic inflammation is well limited to the pelvis and secondary venous involvement is not seen.

Treatment. In order to give definite rules for the treatment of anal fissure, it is necessary to classify the various types and treatment according to the type. The treatment that will relieve one type may only be an aggravation to another.

In the simple uncomplicated fissure secondary to constipation in which the symptoms are not severe the patient is able to walk about without much discomfort. Usually one application of pure tincture of iodine or silver nitrate will suffice for a cure. A cotton applicator, soaked in a 10 per cent. cocaine solution will produce sufficient anesthesia to permit the application of the caustic without pain. After the anesthetic has been applied the sphincter can be gently dilated sufficiently to cause a slight bleeding of the fissure. Then the application of the caustic is certain to reach the depths of the fissure. Constipation should be relieved with mineral oil and the patient advised to take hot Sitz baths and to apply heat to the perineum. A pledget of cotton saturated with witch hazel is cooling and gives comfort to the patient during the sleeping hours. In the daily toilet it is important to avoid the use of toilet paper for several days, using instead cotton saturated with witch hazel.

In the chronic type of fissure in which granulations form and the edges are thickened and overhanging, it is useless to attempt the type of treatment above outlined. Chronic fissures rarely heal spontaneously and although the pain frequently disappears the fissure always remains. The only satisfactory cure is operation. This operation must completely destroy the entire bed of granulations, the overhanging edges and any burrowing process or fistula. The most ef-

fective means of accomplishing this is to completely excise the entire fistula.

The operative procedure is simple but should not be minimized in the eyes of the patient. I would personally prefer to hospitalize such patients for at least five days. It is never satisfactory to try such a procedure in the office.

Occasionally one has to operate during the acute exacerbation in this chronic type of ulcer but it is never quite satisfactory. The ideal treatment would be to allay the inflammation by absolute rest in bed, local and general application of heat and a mild laxative. The patient then comes to the hospital free from pain, with no intense contraction of the sphincter muscle and no bladder pain. It is true that during severe, painful attacks the sphincter can be dilated and the operation performed with a great deal of relief but the postoperative course cannot possibly be as comfortable as when the acute lymphatic involvement has been reduced.

In the actual steps of the operation the technic does not vary according to the individual case but a simple routine will practically fit all cases with just a few general exceptions.

Either under local anesthesia or a combination of twilight and local, or nitrous oxide gas, the sphincter is slowly and gently dilated. The gloved fingers should be well lubricated in order to prevent making new fissures. Any type of instrument devised for dilating the sphincter is unsatisfactory as compared with the finger method and also has its dangers.

With retractors in position and the ulcer well exposed, a complete excision is made with the knife or the entire ulcer is destroyed with the cautery. (Personally I prefer the first or knife method as being the safest and surest.) The upper limit of the incision should include the rectal crypt above and the lower limit should include the sentinel pile and a good margin of skin beyond. The overhanging edges should be cut away and then the entire ulcer can be removed en masse. The incision should be carried down to and slightly into the sphincter muscle. It is not necessary to sever or cut away any part of the muscle. By going down to the muscle the operator is assured that he has removed any underlying fistulous tract. If the ulcer is a part of the fistulous process the fistulous tract will never pass through the body of the sphincter muscle or above the sphincter muscle unless such an opening has been made with the probe. It is never necessary, therefore,

to cut the sphincter muscle even when a fistula has formed unless it has perforated into the rectum. These underlying fistulae appear so frequently as a complication of a fissure that the writer wants specially to emphasize the importance of their complete removal at the primary operation in order to avoid a recurrence. Hemorrhage is easily controlled by ligatures or by the use of the cautery at the base of the wound. The wound is lightly packed with iodoform gauze.

The postoperative recovery should not be painful. On the third day a hot cottonseed oil enema is given through a small catheter without removing the gauze pack. Four to six ozs., of oil is all that is well tolerated. If the patient begins to feel any desire to go to stool the oil should be discontinued. Later in the afternoon, a simple soap suds enema can be administered if the bowels have not moved. Throughout the course of the day mineral oil can be given in three tablespoon doses. The diet is increased to soft articles and on each succeeding day the oil enema is repeated. One stool a day is sufficient; and more than that will only cause irritation. The patient can go home in from five days to one week. After one week the patient becomes entirely ambulatory and very little treatment is necessary. The patient is advised to take a daily Sitz bath and use cotton and witch hazel at the toilet; once a week the sphincter can be gently dilated with the finger which should cause no pain. Uncomplicated fissures of the chronic type treated in this manner rarely recur.

The tuberculous fissure presents a slightly different problem. Operation can be done much as outlined above but if the patient is in a general rundown condition and there is no response to treatment in other parts of the body, the operation will not produce the desired results. Those patients in which a tuberculous fissure appears as part of a general tuberculosis do best where they receive intelligent tuberculosis therapy, including plenty of sunlight, wholesome food and sufficient rest. The patient who will obey the stringent rules laid down for the cure of tuberculosis will immediately respond to such local treatments as are ordinarily given to relieve or cure tuberculous fissures. The tendency toward overhanging margins in this ulcer is very pronounced and the granulations are covered with a thin, grayish discharge. Following exposure to the sun over a period of several months supplemented by the ultraviolet ray the entire appearance changes. The ul-

cer fills up with healthy, red granulations and the grayish discharge disappears. At this point operative procedure can be successfully performed.

In conclusion, it will be well to state, (1) that fissure in ano should be given very serious consideration; (2) that many people are actually incapacitated on account of this condition; (3) that when the chronic type of fissure is recognized some operative procedure should be immediately advised.

University Club Bldg.

THE CRIPPLING VARICOSE VEIN

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CAIRO, ILL.

In youth, before I had ever looked into a medical book, I was familiar with and terrified by the results of the varicose vein of the leg. It was not talked of in our neighborhood by that name. The most horrifying manifestation was the chronic, eating ulcer. The country folk called it "setfast." It was regarded as incurable. Our family doctors amputated these legs to save life and get rid of a stinking nuisance. "Peglegs" were in evidence all around us. Let us remember that about 20 per cent. of our people have some form of varicose veins.

Another variety of varicose vein our country folk called piles. Many of our neighbors were laid up at intervals and when not laid up suffered much pain and partial disability. They had hemorrhages, wore pads and were frequently excusing themselves and hunting hiding places to "push up their piles." My old preceptor was a victim. I have seen him sneak into an alley or wood shed, slip his hand under his clothing and push his piles up above the sphincter. He was afraid to have them removed because we gave ether through a rubber covered, airtight cone, threw it in by the spoonful, put a man at each arm and leg of the patient to hold him on the table while the anesthetist smothered him into insensibility. There was an anesthetic mortality which added to the terror. This practically disappeared with the introduction of the open mesh, drop method; but there was a prolonged, painful convalescence. This was due to the method of transfixing the piles, ligating them with a strand of silk and wait for them to slough away and heal by granulation.

Another form of varicose vein is called varicocele and involves the spermatic veins. Nicholas Senn, Sr., Chief of the Surgical Staff

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in the Spanish-American War, found 21 per cent. of our boys handicapped with varicocele. These veins become thick, long and convoluted. They appear on the left side. They are rarely seen on the right. Why? Because the right spermatic vein has valves and empties into the renal vein at an acute angle. The left has no valves and unites with the renal vein at right angles. Four results are observed. They are, in the order of their importance, first, aching, dragging pain following prolonged physical activity or long hours in the standing position; second, softening and atrophy of the testicle; third, an elongated, pendulous scrotum and, fourth, a form of melancholy. I had not been much impressed with the disability incident to varicocele till I took the spring course in surgery at the Royal Infirmary, Edinburgh, capital of Scotland, when Professor Thomas Annandale, colleague of Lord Lister, was surgeon in chief at that great hospital which, at that time, had about 850 beds. I found young men regularly appearing at the clinic for operation for varicocele. I had never seen so many operations for varicocele at any other clinic anywhere.

Inquiry disclosed that service in the army and navy of Great Britain was quite popular with young men and was eagerly sought by them. Army and navy regulations forbade the acceptance of candidates for admission to service who were handicapped by the infirmity of varicocele. This explained the large number of varicocele operations. In Prof. Annandale's technic he lopped off the bottom of the pendulous scrotum and whipped it over with a line of suture to take up the slack. I believe this is seldom necessary because the standard operation of resecting the spermatic plexus and uniting the ligated stumps takes care of the slack.

I shall not discuss the operative technic for varicocele and hemorrhoidectomy for the reason that it would exceed the limits of a paper for an occasion like this. In a personal conversation with my long time friend, Dr. Charlie Mayo, a few years ago, he made the remark that papers before medical societies should be limited to about 20 minutes. We all know how tiresome many papers are that have a "diarrhea of words." They are padded with platitudes that keep the members peeping stealthily at their watches. More than once I have put learned audiences to sleep myself.

In a general way I may be permitted to say that these operations for varicocele and hemorrhoids are safe and satisfactory. I have done hundreds of them without mortality. Disability is removed and comfort restored. I recall two or three hemorrhoidectomies that were followed by secondary hemorrhage which

alarmed the patients and families very much but were readily controlled. Patients should have this possibility explained to them in advance and that it is quite controllable. One of my patients was returned to hospital a week after operation with a wad of gauze in her rectum as big as a fist which had been hastily packed by her physician.

I have heard of two or three of my patients who claimed to have a return of their piles; but they employed other surgeons who do not leave some of the piles at operation in order to get another operation. These are apt to be patients who did not pay for the first operation.

The message I really wish to bring to you and which prompted me to attempt this paper, is the management of the crippling varicose leg. Like the poor, they are always with us. They usually appear along the course of the long saphenous vein on the inner side of the leg. To make a sort of "blanket" statement, blinking the exceptions, we may say that obstruction and a weak heart are the chief causative elements. Like hemorrhoids, they often appear in pregnant women. We find them in people whose occupation requires the standing position for long hours. As familiar examples, I have in mind the motormen on street cars and clerks behind the counters in our retail shops and hotel desks. Their deep veins are compressed by their contracted muscles, made continuously tense by maintaining the erect posture. The normal flow of blood is from the superficial veins into the deep veins through the connecting veins. This current is opposed by the rigid muscles. Dull aching pain, sluggish current, dilatation, elongation, distortion, varices, eczema and indolent ulcer result. As a young doctor I was much worried and disappointed in my efforts to cure these patients by the use of baths, liniments and ointments. On one occasion a humorous old farmer consulted the young doctor and exhibited an old ulcer with ashen colored base, sharp, hard border with big, knotted veins for neighbors. He said, "Doctor, I have used salve enough on this sore to heal up a crack in the fence and it didn't do a damn bit of good. It gets bigger all the time." The predisposition to these ulcers lies in the congested, engorged and sluggish circulation in the varicose leg. The limb is sodden. A slight trauma, such as our legs frequently get, lights up inflammation and the skin and cellular tissues break down. An ulcer results which refuses to heal. A patch of eczema is apt to develop on a varicose leg. The itching is maddening. The temptation to rub and scratch is irresistible. An abrasion results. It becomes infected. An ulcer follows. A patient of mine of Hibernian blood, had varicose veins, with

eczema, both legs. He was warned not to rub them. He told his wife of the warning. She tried to keep him from scratching. He operated a teaming service. One noonday Pat was determined to scratch those legs. He excused himself after lunch and went out to the stable. He picked up a cob from which the mules had gnawed the corn and proceeded eagerly to polish those shins. Bridget came out to look for a hen's nest. Pat was very busy. "What are you doing, Pat!" she exclaimed. "Oh, I am just fixing my sock."

As a young doctor, these chronic, indolent ulcers were a "nightmare" to me. I soon learned of the discovery by Dr. Henry A. Martin, of Boston, of the rubber bandage, called by surgeons to this day, Martin's bandage. Dr. Martin introduced this bandage around 1880, maybe a little earlier. It made quite a reputation for me. My waiting room was made fragrant by these patients. I soon arranged for my lady patients to call in the forenoon and my leg patients in the afternoon for obvious reasons. My undoing came with the recurrence of my cures. Every little scratch, every little bump which these legs got, reopened these scars and the cicatricial tissue melted away like leaves in a forest fire. I had not removed the cause. Later I abandoned the Martin's bandage, except in rare cases, and adopted the method of removing the cause; then healing the ulcer by a different plan. It has proven eminently satisfactory. This treatment consists in removing the veins; then healing the ulcer by slashing and "basket strapping." I will describe it as briefly as consistent with clarity.

After a day or two in the recumbent position, a thorough cleansing and soaking in antiseptics, the patient is asked to stand briefly on his feet beside the operating table to permit his varices to fill and become distended. Each varix is marked by a small pledget of gauze dipped in tr. iodine. This enables the surgeon to locate the dilatations after the patient lies down and the veins empty themselves. The Mayo operation above the knee is the first step; then an incision is made through each iodine mark, the varix dissected out, the veins ligated and the skin closed by absorbable suture. A coat of aristol-collodin (10 per cent.) is spread over the line of sutures to protect against infection from the ulcer which gets our next attention.

These ulcers have hard, calloused, undermined borders with cicatricial tissue that interferes with capillary circulation and nutrition. A thick, ashen colored base has the same material and the same effect.

To relieve this condition and restore capillary circulation we first curette, then slash these

ulcers deeply into ribbons about a quarter of an inch wide. We begin the incision one-half inch above the margin of the ulcer and carry it deeply, straight across the base to a point one-half inch below the lower margin. Don't worry if you feel the shin bone with your knife where it is covered by nothing but skin. Don't worry at a profuse hemorrhage. It will soon stop. If it don't you can pick up the principal vein and ligate it.

The next step is basket strapping of the ulcer. To make this perfectly clear I will apply it on a "pop" bottle. It will speak more than words. Apply over this a thick dressing of gauze and absorbent cotton. Don't disturb it for a week unless the dressing becomes soaked and foul smelling. If you must, for these reasons, change the dressing sooner, don't disturb the adhesive straps. Just wash them like the skin. You will be surprised to see the rapid progress of the healing process. An ulcer the size of a 50c piece will be practically healed at the third dressing in three weeks. If the ulcer is large as a palm it will take longer. The patient must be kept in bed.

Some years ago the ingenious mind of Charles H. Mayo devised an instrument to facilitate the operative treatment of these cases. I have it in my hand for the inspection of those of you who may not have seen it. I thought if it was as satisfactory as his operation for bunion and his brother Will's operation for umbilical hernia, I should have it. It consists of a steel staff with a small ring set on one end at an obtuse angle. It has been a disappointment to me. Why? Because, in many cases, in punching off the branch veins, the trunk vein breaks. Moreover, the branch veins bleed freely. The method of using the vein stripper by Dr. Mayo is to expose the long saphenous vein at its anatomical location near the saphenous opening, sever it between two hemostats, ligate both ends and pull the lower segment through the ring of the stripper and push the latter down by short punches, cut down upon it above the knee, ligate and remove the segment. I don't always use it.

Reference to your books on operative surgery will disclose a list of procedures devised by different surgeons to accomplish the same purpose in a better way, they think. At the head of the list you will find Trendelenburg's Mayo's, Schede's (now seldom used), Delbet's, Fergusson's and Bennett's; and as many others follow. You will apply the rule of common sense and results. A combination of Mayo and Bennett; or of Trendelenburg and Bennett appeals to me.

THE PRESENT STATUS OF THYROID SURGERY*

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There has been no greater advancement made in surgery in the past five years than that made in surgery of the thyroid gland. Surgical procedures of five years ago are now obsolete. Ligations and multiple operations have given way to the complete resection of the gland with a much smaller mortality rate and the absence of the severe postoperative crises that we formerly experienced. Present day thyroid surgery done by an experienced surgeon working in conjunction with an internist is comparatively safe and gives splendid results.

Several factors have been important in this reduction of the death rate following operation. In the early days of thyroid surgery before there was a clear understanding of the beginning signs and symptoms of hyperthyroidism, patients were brought to the surgeon in the late stages of the disease after marked visceral changes had occurred. These patients not only offered a poor operative risk but a greatly diminished opportunity for complete restoration of health. The general dissemination of knowledge regarding the diagnosis and treatment of toxic goiter has enabled the family physician to recognize these cases in their incipency. Patients are coming to operation now before the complications of chronic myocarditis and chronic nephritis have occurred. Thus the surgeon must acknowledge the grateful assistance he has received as a result of the quickened diagnostic sense of the physician. It is also true that the art of surgery has made great strides in recent years, not in individual brilliancy but in the perfection of operative team work.

In major operations the element of time may be the deciding factor between life and death and the present day swiftly moving surgical team certainly functions more rapidly and smoothly than did the individual surgeon. The time required for goiter operations has been reduced from hours to minutes. Following a local anesthetic, possibly supplemented by a small amount of nitrous oxide or ethylene, a thyroidec-tomy seldom consumes more than 40 to 60 minutes from the time the patient enters until he leaves the operating room and there is little appreciable change in his gen-

eral condition. The patients are wide awake on returning to their rooms and may leave the hospital in seven days. Formerly this convalescence often extended over a period of weeks.

The formation of groups over the country whereby internists and surgeons work in conjunction and the more widespread use of the basal metabolism tests have likewise proved important factors in lowering the mortality in toxic goiter.

Another very important step in the successful treatment of toxic goiter has been the discovery of the efficacy of iodine as an aid to surgery. Iodine is not in any sense of the word a cure for hyperthyroidism. It is only useful as a means of preparing the patient for operation after he goes into the hospital and controlling the postoperative toxemia which we formerly experienced. Four years have elapsed since Plummer made his notable contribution to medical science and during this time the treatment of toxic goiter has been almost revolutionized. First, the dreaded postoperative hyperthyroid reaction was eliminated and then the often fatal crises were overcome. Ligations were gradually abandoned and finally the multiple stage operation was discarded. Within the past year or two considerable knowledge regarding this form of treatment has been accumulated.

Previous to the discovery of the efficacy of iodine as an aid to surgery in the treatment of this condition there remained considerable room for argument regarding the merits of the various therapeutic measures. Our routine practice now is to put the patient to bed, give iodine in the form of Lugol's solution (10 drops three times a day) and to observe the progress of the disease by the basal metabolic rate, lowering of pulse rate and general quieting effect on the nervous system. As a usual rule, we find that by this procedure we are able to operate safely on the tenth day. Occasionally we find it better to wait until the fourteenth day, but very seldom longer. Luminal is also usually given in 1½ gr. doses daily to quiet the nervous system. Lugol's solution is also given after the operation.

One of the most difficult problems the surgeon must solve is the proper amount of thyroid tissue to remove. If one does not take out enough of the gland all he has done is to make a partial cure and the trouble these patients have later on is not a recurrence; it is a continuation of the disease in a lesser form. On the other

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hand, if one takes out too much of the gland myxedema is the result. We endeavor to remove all but a small strip of the gland on the posterior border sufficient to guard against injury to the recurrent laryngeal nerve and the parathyroids. We believe that in order to insure the best prognosis as much of the gland as is possible should be removed. It is also our opinion that the greater amount of gland left the greater the postoperative crises will be.

There are many classifications of goiter. From the surgical standpoint, the very toxic goiters fall into three distinct groups: (1) Toxic adenoma of the thyroid; (2) exophthalmic goiter; (3) secondary toxic colloid goiter which is carried through from adolescence, becomes cystic and nodular and in later life, very often at the menopause, produces symptoms of thyrotoxicosis.

There are some important facts regarding thyroidectomy in the very toxic cases. The younger the patient the better the surgical risk. All toxic cases past fifty years of age should be regarded as questionable risks. This is because of the visceral changes which have taken place and particularly the damage to the myocardium. Cardiac arrhythmias and signs of cardiac decompensation increase the risk.

Toxic goiters of all types show a tendency toward remissions and crises. This occurs most frequently and to the greatest degree in the exophthalmic type, less so in the toxic adenoma and usually to the slightest extent in the secondary toxic colloid. Thyrotoxic symptoms developing in an old colloid goiter appear to be due largely to a degenerative process and once this has started it tends to develop with very slight if any remission. As a rule, these cases are the poorest surgical risk. The operative mortality is highest when thyroidectomy is done during a crisis or when the patient is approaching one; it is at a minimum during a remission. It is obvious then that the best time for operation is during a remission and this stage must be patiently awaited for by the surgeon. As our knowledge of the life history of the toxic goiter increases, the value of careful preoperative treatment and the importance of waiting for the proper time for operation become more and more apparent. By close attention to these two factors, our results in thyroid surgery will be improved.

CONCLUSIONS

1. The rapid advance made in thyroid surgery during the past five years has made

ligations and multiple operations obsolete and brought into general use the complete primary removal of the gland.

2. The advantage of early thyroid surgery before secondary degenerative changes have occurred in other organs, especially the heart and kidneys.

3. The successful use of local anesthesia and the value of team work and greater speed is demonstrated no place better than in thyroid surgery.

4. The use of iodine in preparing a patient for operation and the absence of postoperative toxicosis.

5. Waiting for remission of the acute thyrotoxic symptoms before operation is performed.

Smith Building.

THE MEDICAL CORPS OF THE NAVY AS A CAREER FOR YOUNG PHYSICIANS

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Lieutenant Medical Corps,

U. S. NAVY

The young doctor, recently graduated, is usually at a loss at about the end of his junior year in medical school as to what he wants to do upon graduation. This is natural in view of the fact that he probably studied medicine because his father was a physician, or because he greatly admired some one who was and who gave him encouragement when he inquired as to the advisability of such a course.

The young man may return to his home town and practice among his friends of a lifetime (a dubious procedure), or seek new fields and go strictly on his own, or he may be caught at just the time war is declared and have very little choice, except as to which service he wants to be with, the Army or Navy.

The same young physician may decide to take up a career as a medical officer in the Navy. Should he decide to do so he will find to interest him many subjects not taught in medical school; and the same holds true of the Army. Should he choose the Medical Corps of either the Army or Navy he will find that the same holds true. (Whichever is his choice he will find that the following remarks are true.)

Having served with both the Army and Navy, and being still a junior medical officer in the Navy, the writer is of course holding the brief for the latter service. If the young practitioner does not desire the humdrum everyday life of the civilian doctor, he may enter the Navy Medical Corps and if he finds that military subjects or those coming under the subject

of military medicine interest him greatly, he may specialize in them just as he could in such subjects as laboratory, X-ray, or surgery, and in addition he may take his pick of the purely professional subjects. A few of the things which may not occur to the individual while making his decision are outlined herewith.

Field training in sanitation, hygiene, epidemiology, and all the other subjects necessary to the proper care of the health of troops in the field, are as necessary in the education of the medical officer of the Navy as they are to the same type of officer in the Army. There can be no comparison, if we may speak of each in the singular rather than as a class, except in a purely professional way, i. e. from the actual standpoint of diagnosis and treatment of the sick.

The Army medical officer meets certain obstacles which are on a par with another group met by the Navy medical man, all of which are outside the age-old question of supply and economy, which is always much in the minds of the medical departments of both services.

For instance, the medical officer of the Navy must be able to handle the problems connected with land forces, both foot and mounted (Marines), and he must at the same time be able to handle himself creditably on board ship. He may have plenty of both types of work on a single cruise. Because of the organization of medical units, such as the Medical Battalion of the Marine Expeditionary Forces, the medical officer must have a fair knowledge of Tables of Organization and the duties of the Army medical officer, for the organization mentioned closely parallels the same type of unit as organized for the Army.

While the Army medical officers do not have to study conditions as they exist aboard ship a few of them have to do duty as transport surgeons.

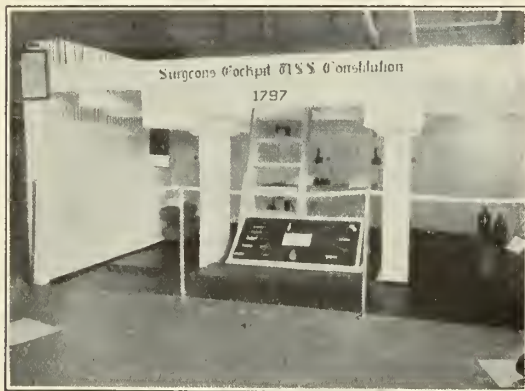


Fig. 1. Cockpit of the "Constitution" (Old Ironsides), the antecedent of the modern sick bay as shown in Fig. 2, suffers by comparison with the operating suite on the new aircraft carrier Lexington.

Duty with the Marine Corps. In this type of duty it is absolutely necessary that the medical officer have a working knowledge of the ordinary field appliances used in maintaining the health of the force. Upon arrival at

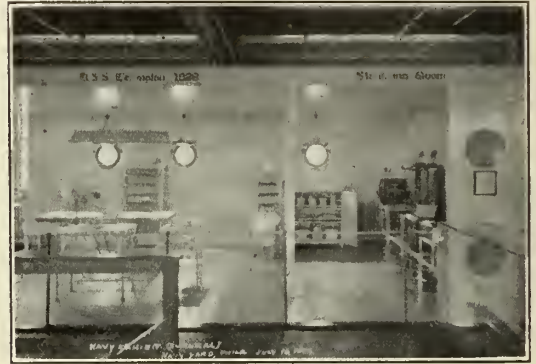


Fig. 2. The operating suite on the new aircraft carrier Lexington.

Marine Barracks he may be assigned to duty as Post Sanitary Officer, and should this occur he will be thankful that he has made a study of the duties of such an individual, for they are many and irksome. He may be assigned to a Medical Battalion which has been expanded to the strength of a Medical Regiment, as Commanding Officer of an Ambulance Company, or Hospital Company, duty which will necessitate his having more than a purely professional knowledge of how to care for injury or disease. The doctor will require a working knowledge of infantry drill and any or all of the following subjects: map reading, litter drill, ambulance drill, tent pitching, convoying, field sanitation, hygiene, mess management, supply and accounting, tropical medicine, preventive medicine, epidemiology, and transportation ranging all the way from a pack animal to a ten ton tractor.

Aviation medicine has become one of the most important branches in the military and naval service, and special training is available to those medical officers who desire to become flight surgeons.

With the Marines on tropical station he may and probably will deal with all of the above subjects and in addition a large amount of venereal disease prevention and treatment. Also, he will probably find among the civilian population an abundance of syphilis and yaws and some leprosy. The medical officer needs a working knowledge of mental diseases, dysentery, smallpox, filariasis and malaria, in addition to the common respiratory diseases, such as influenza, bronchitis and pneumonia. Among the black races there is usually considerable tuberculosis. If detailed with the health service of a small republic, he will meet with all of the

above and will of necessity have to learn a foreign language. The young doctor may encounter such diseases as pellagra and spew and if he is ambitious can do research in practically any line of medical work.



Fig. 3. Showing an aviator dressed for an altitude flight. Clothing worn for a temperature of 70 degrees F. below zero.

All this wide variety of work comes within the domain of the service medical officer. What physician in civil life enjoys the same opportunity to practice all kinds of medicine, whether military, industrial, tropical, or otherwise, unless he be a medical missionary, or attached to some research foundation?

The young physician may practice his professional subjects in a naval hospital, where he has at his command the latest aids, whether they be apparatus, remedies, or advice and counsel. He may be assigned to a hospital ship and have the same thoroughly equipped institution at sea.

In discussing a subject such as this, before coming to general conclusions, one should have tried out all the various ways in which a graduate physician might practice medicine. The writer believes that he has had a fair experience in most of them and if he can be of assistance in giving advice to a young physician about to begin to put into practice what he has learned mostly by theory, some good will have been accomplished in writing this article.

The way of the young graduate, unless he has unusual opportunity to become affiliated with a successful physician who may refer sufficient practice to furnish an income, or who takes a salaried position, is problematical. He may immediately put his knowledge on a paying basis but the chances are against such a result. He may take an institutional appointment and, after several years, become affiliated with other physicians through becoming a specialist in some particular branch, or through a reputation worked up while holding such an appointment may be able to go outside and

practice. His chances are even at the most. I am not trying to discourage the practice of medicine, but so much has been said against the practice of medicine in the services and in civil life, mostly by people who have not tried both, that it seems to be time to outline the advantages of each.

The doctor in the Navy (Lieutenant) with three years' service, if married, receives \$336 monthly, with increase every three years and with each promotion. If he spends \$60 for rent (fairly high), and \$50 for foodstuff (average), he has approximately \$200 over at the end of the month. Of course this does not take into consideration his necessities for the family and himself, but it is safe to say that he has more than his civilian confrere who makes \$600 per month and on the 29th of the month has to go out and beg each person he has willingly visited at 4 a. m. to please pay \$5 on his \$50 bill if he cannot pay all. Especially is this so if he has to pay \$100 for house and \$100 for office rent besides the other expenses. His grocer will send the bill on the first of the month even though he owes the physician twice as much.

After five or ten years perhaps the story may be different, but it must be remembered that during that time the Navy medical officer has been seeing life, has been drawing regular pay, and should be depositing some of it (even if small) in the bank every month.

The young physician, while in school, is taught many subjects most of which, with the exception of medicine, surgery, obstetrics, therapeutics, and prescription writing, he does not actively use. If he enters the service he will find plenty of use for all of these and, in addition, he will have to obtain a working knowledge of a great many more. If he longs to be the *old family practitioner*, he will have a wonderful opportunity should he become the family doctor on a Marine post or naval station. If he wants to do research work in bacteriology the Bureau is quoted as encouraging anyone with such a desire. If he desires to do X-ray work he may obtain a special course, which likewise applies to obstetrics, surgery, internal medicine, electrocardiography, and he will have plenty of opportunity to try out his skill afterwards.

Last but not least, if the young doctor is not more interested in his medicine than he is in financial gain he should have never studied medicine to begin with.

There is the added attraction, if it appeals, of not having to follow one rut for a lifetime, and our young graduate may look forward to two years of sea duty out of every five.

THE JOURNAL

OF THE

Missouri State Medical Association

APRIL, 1928

EDITORIALS

THE SEVENTY-FIRST ANNUAL SESSION

Preparations for the 71st Annual Meeting of the Association to be held at Columbia, May 15, 16, 17 and 18, 1928, are progressing satisfactorily. The Boone County committees are functioning with the zeal and energy of the ideal host. They are endeavoring to anticipate every need of the visitors and provide for the accommodation and entertainment of every one who attends the session. Columbia is a conspicuously appropriate place for large numbers of physicians to meet, especially at alumni reunions, and no time for such fraternal gatherings is more conducive to general good-fellowship than during our Annual Session. Class reunions and alumni dinners are always pleasant and enjoyable occasions for reminiscing and retrospection when the cares and trials of the daily grind can be at least temporarily forgotten.

The complete program is published in this issue.* The four symposiums will undoubtedly hold the attention of a large number of our members and the varied character of the other papers promises something of interest to every one.

Our guest speakers are so well known that any comment upon their achievements is not needed here. However for the benefit of those who might have overlooked the announcement in our last issue we repeat their names and the subjects of their addresses:

Dr. J. C. Bloodgood, Baltimore, Md., "What Every Doctor Should Know About Cancer."

Dr. Thomas S. Cullen, Baltimore, Md., "Uterine Hemorrhage."

Dr. Elliott P. Joslin, Boston, Mass., "The Dangers of the Diabetic."

Dr. F. M. Pottenger, Monrovia, Calif., "The Early Diagnosis of Tuberculosis."

Dr. Frank Smithies, Chicago, Ill., "A Practical Method for Examination of Patients Affected With Intestinal Stasis; With Suggestions for Treatment."

The Program Committee invites every member to study the program and plan to attend the meeting for one or two days if not for the entire period. In your planning do not forget to make hotel reservations or write Dr. D. A. Robnett, Columbia, chairman of the local committee on arrangements, for accommodations.

The delegates are reminded that the House of Delegates will convene on Monday, May 14, and remain in session all that day. The scientific proceedings begin on Tuesday morning, May 15.

Let the Columbia session break all records for attendance.

UNIQUE THEORY ON ETIOLOGY OF INFANTILE PARALYSIS

An interesting hypothesis was advanced by Dr. Marsh Pitzman, St. Louis, at a recent meeting of the St. Louis Medical Society, namely, that infantile paralysis was not a virus disease and not an infectious disease at all, but was caused by a mixture of atropin and hyoscin transmitted through the milk of cows which had eaten jimson weed.

Dr. Pitzman arrived at his idea through a series of "coincidences" which he believes to be more than mere coincidence. The disease is most prevalent in the early spring, when the weed is about the only green thing showing in the cow pastures, and in the late, hot summer, when jimson weed is about the only herbage left unwithered. It is more prevalent in New York City, served by many small dairies, than in St. Louis, served mainly by two large dairies in which mixing of a little "poisoned" milk with a great deal of milk from cows which had not eaten the weed would reduce the toxic content to an innocuous amount. He found records of small epidemics wherein a common milk supply was the only common denominator in the erratic spread of "infection."

He attempted to check on his theory in a series of experiments covering a year and a half at Washington University. Herbivorous animals, he found, gave no reaction whatever. Cats and dogs refused to taste milk treated with the mixture. Atropin and hyoscin in the exact proportion found in the jimson weed leaves, however, by subcutaneous injection produced effects in the carnivori paralleling the disease in man. There was the characteristic brief fever, with paralysis progressing from the lower to the upper extremities and then to the respiratory apparatus. But there the parallel ceased. There was no permanent paralysis or other after-effects, no tissue destruction. When the cats or dogs recovered they recovered com-

*Page 176, this issue.

pletely. Dr. Pitzman argued that the poison might be specific for man. The animals required a dosage several hundred times, by weight, the human dosage. He was inclined to blame milk-borne atropin for the fever and perhaps other of the immediate symptoms in man but hyoscin for the nerve destruction and permanently crippling effects of the disease.

As he freely conceded, his proof was not final. But the theory has interesting elements of plausibility and deserves the scrutiny of not only the workers in this line of research, but of every physician who finds the disease striking at one or two or three out of twenty children who seem each to have had an equal chance of infection.

TULAREMIA

The report of two cases of tularemia in Missouri by Dr. M. George Gorin¹ is an important contribution to the literature of this relatively new disease. Last month Dr. Ola Putnam² reported a case which was the second recorded case in Missouri with the specific diagnosis of tularemia. It is probable that the first case with a specific diagnosis of tularemia was reported by Drs. McLaughlin and Jones, of the Marine Hospital, St. Louis, and published in the *Bulletin* of the St. Louis Medical Society in April, 1926. This case prompted Dr. George J. Epp, St. Louis, to send the blood from a case that showed similar symptoms to the Hygienic Laboratory which reported a positive reaction. Dr. E. W. Saunders, St. Louis, mentioned two cases observed by him but these were not reported nor published. An unrecognized case was one treated by Dr. W. L. Brosius, of Gallatin, Missouri, in 1909, but not diagnosed until January 25, 1928, when the Hygienic Laboratory of the United States Public Health Service reported a positive reaction from the blood of the patient submitted by Dr. W. L. Brosius, Jr.

On January 21, 1928, the United States Department of Agriculture issued a warning to all field men of the department to be on guard against tularemia, also known as "rabbit fever" and "deer fly fever." The department made this warning for the benefit of sportsmen, lumbermen, cattle and sheep tenders, farmers and others of the general public who may come in contact with the disease. The warning was indorsed by the United States Public Health Service which issued a separate bulletin on February 14 for the information of physicians.

For the benefit of physicians in Missouri who have not yet had the privilege of clinically observing this disease, we may say that tula-

remia is an acute infectious disease of rodents transmissible to man. It was first discovered and described in this country in 1920 by Dr. Edward Francis³, of the United States Public Health Service. Five years later the discovery of a disease with a similar source of infection and symptomatology was described in Japan by Ohara⁴ and named Ohara's disease. In 1925, at the hygienic laboratory in Washington, D. C., serums from recovered cases and cultures of the offending organism were compared and the two diseases, as described by Francis and Ohara, were found to be identical. Of the approximate five hundred human cases of tularemia reported in the United States, twenty terminated in death. Cases have been discovered in all states, except Washington, Wisconsin, New York, Delaware and the New England states.

It has been established definitely that the disease is caused by an organism, *Bacterium tularensis*. This organism was first described and named by McCoy and Chapin⁵ in 1912, after having been isolated from ground squirrels in Tulare County, California (hence the name tularensis), during an epidemic among these animals. Later Wherry and Lamb⁶ isolated the germ from cotton tail rabbits during an epidemic in Southern Indiana. The morphology of *Bacterium tularensis* is described as a gram negative short rod or coccus. The organism is agglutinated by antitularensis serum. It grows on glucose cystine meat infusion agar, of pH 7.3.

In addition to the wild rabbits most affected by tularemia and man who may contract the disease, scientists have to date discovered cases of tularemia in California ground squirrels, pine squirrels, yellow bellied chipmunks, pocket gophers, woodchucks, opossums, cats, porcupines, house mice, deer mice, meadow mice, wood rats, and coyotes.

In man tularemia is likely to manifest itself first by pain, tenderness, and a swelling of the lymph glands draining the region where the infection occurs, as those of the elbow or armpit when infection has occurred on the finger. These symptoms are likely to develop within two to five days after infection. An inflamed and painful ulcer may soon appear where the insect bite occurred, although in some cases this does not happen. The development of the disease is likely to be accompanied by headache,

3. Francis, Edward: Tularemia, *J. A. M. A.* **78**:1015-1018 (April 8) 1922; Tularemia, *J. A. M. A.* **84**:1243 (April 25) 1925.

4. Ohara, Hachiro: Concerning an Acute Febrile Disease Transmitted by Wild Rabbits: A Preliminary Report, Jikken Iho, March 12, 1925, Japanese text; Human Inoculation Experiment with a Disease of Wild Rabbits, with a Bacteriological Study, Kinsei Igaku 12, No. 5, Japanese text.

5. McCoy and Chapin: *Pub. Health Bull.* 53, January, 1912.

6. Wherry, W. B., and Lamb, B. H.: *J. Infect. Dis.* **15**:331-340, 1914.

1. This issue, page 141.

2. *J. Missouri M. A.* **25**:70 (Feb.) 1928.

chills, prostration and fever. Tularemia peritonitis has been recently reported by Fulmer and Kilbury. There has been described a typhoid type without evidence of primary focus or a regional adenitis.

The diagnosis in man is made from the history of possible infection, symptomatology and the serum agglutination of the *Bacterium tularensis*. The leukocyte count from cases reported ranges from 10,000 to 20,000 with a predominance of polymorphonuclear neutrophils.

For protection against tularemia the best known precaution is the use of rubber gloves when handling or dressing rabbits, or when skinning other animals that may be infected with the disease. Rubber gloves should be worn in handling fresh skins. Dried skins are not likely to carry infection. In the open it is wise to exercise care in avoiding the bites of deer flies, ticks, or other possible carriers. Wearing rubber gloves is not an absolute protection for skilled laboratory workers who are scrupulously careful because they are aware of the dangers, often contract infection. It has been shown by Ohara in a single experimental human inoculation that the organism may invade an apparently normal skin. One attack of tularemia confers immunity to man hence those who have recovered from the disease should be employed wherever possible in occupations where there is risk of infection. No protective vaccine has yet been developed.

SPEAKERS FROM THE POSTGRADUATE COMMITTEE

The Postgraduate Committee invites the councilors and county societies to take advantage of the facilities the Association has established for providing speakers at the meetings of the societies and councilor districts. The committee is well prepared to send speakers on any topic that the members may desire to hear discussed as it has a large list of members who are willing to give their time to this activity. In making requests for speakers the committee should be given at least thirty days in which to make arrangements. If a special subject is desired this should be named and either the speaker mentioned or left to the committee to select.

Societies are requested to make a special effort toward obtaining a good audience for the gentlemen who are sent to them by the Postgraduate Committee. This is a courtesy due the speakers and we know from reports of meetings already held that members have felt well repaid for the effort of attending the meet-

ings. Requests for speakers may be addressed to the Chairman of the Committee, Dr. R. L. Thompson, University Club Building, St. Louis, or to the Secretary of the Association, 901 Missouri Building, St. Louis.

"A VICIOUS MEDICAL PRACTICE BILL"

For some years the District of Columbia has been endeavoring to have Congress pass a new medical practice act and the Medical Society of the District prepared the bill for introduction at this session of the Congress. At the Washington session of the American Medical Association in 1927 the District through its delegate Dr. Philip S. Roy requested the House of Delegates to give its support to the bill when introduced and encourage constituent state associations to support the measure. The House of Delegates referred this question to the Board of Trustees for proper action after examination of the proposed bill. When the bill came to the attention of the Board of Trustees it was found to contain numerous defects and for that reason the Board of Trustees did not approve the bill.

It may be that some of our component societies and individual members may have received requests from the District of Columbia to use their influence with our Congressmen to support the bill. For the benefit of such members and for the information of all members of our Association we append a discussion on this bill (S. 3107) and on another bill (S. 3592) both of them introduced by Senator Copeland. This discussion is in the form of an editorial from the March 17 issue of *The Journal of the American Medical Association* which we think will be of much interest to all members and particularly to those who may have been inclined to lend their support to the passage of the medical practice act in the District of Columbia without being aware of the defects in it. The editorial follows:

Osteopathic surgeon generals of the army, navy and public health service are a possibility if a bill (S. 3592) introduced in Congress by Senator Copeland, March 10, becomes a law. The bill provides that "the degrees doctor of medicine and doctor of osteopathy shall be accorded the same rights and privileges under governmental regulations." There is no indication that this mandate is to be limited in its operation to the government of the District of Columbia, although the rest of the bill is so limited. If the bill is enacted, it may be, and no doubt will be, construed to put osteopaths on the same basis as doctors of medicine throughout the entire federal government service.

Both Senator Copeland's present bill and the earlier bill introduced by him at the instance of the Medical Society of the District of Columbia (S. 3107) are fundamentally unsound. They undertake

to authorize and regulate matters that they do not accurately define. Both bills recognize the practice of osteopathy as something distinct from the practice of medicine and from the practice of drugless healing, but neither gives indication as to what the distinctions are. If the proponents of this legislation do not know the distinctions or fail to state them, how are law enforcement officers and the courts to find out what Congress intends by such legislation?

The recent Copeland bill undertakes not only to regulate the practice of a cult which is undefined even by its own devotees but also to authorize and regulate the practice of an innumerable category of other cults, so-called drugless healers, who under this bill obviously need not be drugless at all. "Drugless healing," according to the bill, is "any system of healing that teaches that disease *may* be prevented, relieved, or cured without the use of drugs, medicine, or operative surgery." Any five or more adherents of any so-called drugless method of healing may, as a matter of right, demand that an official, permanent board of examiners be appointed, if this bill becomes a law, to represent and give dignity to each and every system of "drugless healing" they elect to cover by a petition. The only limitation on the official recognition of any such system is that the petitioners must differentiate it from the unrestricted practice of the healing art; it may include surgery and the use of any and all drugs, if its proponents can find any one element of unrestricted practice that they are willing to forego.

All of the elaborate provisions of Senator Copeland's bill for the protection of the public against fraud and ignorance in the treatment of disease are thrown to the four winds when it comes to the diagnosis of disease and its treatment by prayer or spiritual means, or by hygienic, dietetic or domestic remedies. Any person is at liberty to engage in the business of treating disease by any or all of these agencies. He need not submit evidence to any one as to age or moral character. He need not have affiliation with any organized religious body. He is not called on for evidence of professional or spiritual ability. He is not asked to tell how, in order to adapt his curative treatment to the needs of his patients, he diagnoses the diseases from which they suffer. He asks leave or license from no one, he registers nowhere; he simply opens an office or hires a hall, advertises his business by signs or otherwise, and proceeds to collect from the gullible public whatever he can for his services.

Limitations of space prevent a discussion of other glaring defects in the pending legislation, such as those relating to the licensing of osteopaths to use drugs and to practice surgery, to the issue of licenses by reciprocity, and to the refusal, suspension and revocation of licenses. What has been said, however, is probably sufficient to show the undesirability of the enactment of any such legislation. The District of Columbia is the seat of the national capital, but its people have no voice in Congress to influence legislation there. Its legislators are elected by the people of the United States outside of the District of Columbia, and are responsible and responsive to those who elect them. All of this has been forcibly pointed out by the Medical Society of the District of Columbia in its recent appeals to the state associations for the support of its legislative program. All of it applies with equal force now, when the medical profession of the entire country should unite in an appeal to Congress to dissuade it from the enactment of any of the bills that are now pending to regulate the practice of the healing art, of osteopathy, of chiropractic or of naturopathy in the District of Columbia.

The problem of the District of Columbia is the problem of the entire United States. Legislation by Congress is inevitably reflected in legislation in the individual states. Physicians are protecting their own people when they urge their representatives in Congress to defeat such vicious legislation.

CULT SCHOOLS INSPECTED BY A.M.A.

The conditions under which persons are taught who practice the cults in medicine are more or less of a mystery to the majority of physicians and quite unknown to laymen. The schools and so-called colleges offering instruction in limited fields of practice rarely offer definite and satisfactory statements about their equipment and teaching facilities, but lure the unwary with roseate prospects of "big money" quickly gained after they "graduate." Occasionally some enterprising physician has inspected one of these schools and published his findings** but no systematic effort in this direction was made until the summer and fall of 1927 when the Council on Medical Education and Hospitals of the American Medical Association undertook the job. We are now privileged to report on the result of this investigation with reference to schools of chiropractic and schools of naturopathy, just issued by the Council. This report will be found on another page in this issue.* In addition to schools of chiropractic and naturopathy the Council inspected schools of chiropody, optometry, osteopathy and physical therapy. Doubtless reports of these institutions will soon be ready for publication.

** Dock, George: A Visit to a Chiropractic School, J. Missouri M. A. 19:85 (February) 1922.

* Page 167, this issue.

NEWS NOTES

Dr. Dean Lewis, Baltimore, professor of surgery, Johns Hopkins University School of Medicine, Baltimore, delivered the Hodgen lecture at the St. Louis Medical Society auditorium, March 20, 1928, under the auspices of the St. Louis Surgical Society and the Medical Fund Society. Dr. Lewis' subject was "Reconstructive Surgery."

Dr. Meyer Wiener, St. Louis, was the guest of the Kansas City Eye, Ear, Nose and Throat Society March 15 and conducted an eye clinic at St. Joseph's Hospital. Dr. W. G. Patton, St. Louis, is a member of the society and also attended the meeting. The society has invited Dr. Henry Prentiss, Professor of Anatomy at the University of Iowa, to give a three days course of lectures during the Easter holidays on the "Anatomy of the Temporal Bone, Accessory Sinuses and Neck Surgery."

Dr. J. A. Myers, Minneapolis, president of the Minnesota Public Health Association, delivered an address before the Jackson County Medical Society, March 13, on "Hospitalization of the Tuberculous Patients in General Hospitals." Dr. Myers was the guest of the Kansas City Tuberculosis Society and spoke before the members of that society and to the nurses.

Dr. Francis A. Howard, Slater, was the guest of honor at a dinner given by the Saline County Medical Society and the Woman's Auxiliary at Marshall, March 7, in commemoration of Dr. Howard's fiftieth anniversary in the practice of medicine. Dr. Howard has practiced in Slater during all these years. Former U. S. Senator George H. Williams, of St. Louis, is a nephew of Dr. Howard and spoke at the dinner.

The tallest hospital building in the world was officially opened on March 16 in New York. It is the new Presbyterian Hospital building, with an ultimate capacity of 1177 beds, the first unit to be completed, after seven years of planning, of the \$40,000,000 New York Medical Center. The building houses the Sloane Hospital for Women and the Squier Urological Clinic in addition to the Presbyterian Hospital. A few days before the official opening, the incoming class of about 50 pupils moved into Anna C. Maxwell Hall, the residence for student nurses in Presbyterian Hospital training school. This 15-story structure has a private room with running water for each of 350 pupils, and is equipped with a large swimming pool and recreation hall.

During the last few months there seems to have been a sudden recrudescence of the old scheme of wheedling cash from the proud though unwary by offering to circulate their biographies in volumes of various titles. Physicians, particularly, are sought as candidates for inclusion in such books of reference. Indeed the publishers of the original Who's Who have issued a circular relative to these ventures, disclaiming any connection with them. Specifically, the publications repudiated include Who's Who in the Central States, Who's Who in California, in Florida, in Dixie, in the South, in the West, in the East, and on the Pacific Coast. However, the biographic distribution is not the only method of attracting the proud ones. It is also possible to make collections on the basis of race, religion, nationality, profession, hobbies and other general interests. The upkeep on such publicity is considerable. Purely as advertising matter it is hardly worth the price.—*Jour. A. M. A.*, Feb. 11, 1928.

The St. Louis Medical Society is giving their past presidents a special evening on April 10, 1928. They have invited Dr. William Allen Pusey, Chicago, Illinois, former president of the American Medical Association, to address the past presidents and the Society in general. Following the address of Dr. Pusey a reception will be given to the past presidents in the banquet hall of the Society. It is hoped that every member of the St. Louis Medical Society may be present.

The Liberty Hospital in St. Louis, which operated for four years as a private osteopathic institution, has been sold under a receivership and is to be used in the future as an old people's home, conducted by the Good Samaritan Altenheim, supported by the Evangelical churches of the St. Louis district. George W. Strodtman acted for the Altenheim, buying the three-story hospital building at 4410 Washington Boulevard for \$252,000. Collector Koeln, receiver for the hospital enterprise, has announced that investors might expect 35 cents on the dollar.

Federal Narcotic Agent Thompson of St. Louis recently announced that an investigation would be made by prison officials and federal agents into the story of a released convict who declared that he had acquired the drug habit in the state penitentiary at Jefferson City. Colonel A. H. Harrison, of the penal board, has said that the convict's declaration that drugs are available to 25 per cent. of the inmates, was exaggerated. The convict gave Thompson the name of a man serving a life term whom he charged with peddling the narcotics to him. Last February a guard at the penitentiary was arrested by the warden, who caught him attempting to smuggle a quantity of narcotics into the prison.

In this issue appears the preliminary announcement of the Kansas City Southwest Clinical Society for its Annual Fall Conference to be held in Kansas City, Mo., October 9th to 11th, inclusive.

It is expected that the coming meeting will be more widely attended than any of the former successful meetings. A departure of interest to the profession of the Southwest is that the program for this meeting will consist mainly of symposia and clinical programs arranged especially for the general practitioner. All special subjects will be correlated with this idea in mind. In fact the entire program will approximate a practical postgraduate course in problems of every day interest.

Dr. William Nelson, of the St. Louis Psychiatric Clinic, stated at a recent meeting of circuit judges and other St. Louis officials that since the clinic was established five years ago with funds of \$12,000 it has handled 2,638 cases and brought about a marked reduction in second offenses. In the same period, he cited, adult crime was markedly increasing and he suggested that the clinic might well be extended, with the necessary additional funds, to deal with adult crime as well as juvenile delinquency. Circuit Judge Taylor, of the Juvenile Court, said that further appropriations were needed also to provide the sort of homes frequently prescribed by the clinic. Dr. M. A. Bliss described the work of the first psychiatric clinic established in Chicago.

Dr. Glover C. Copher, St. Louis, was the principal speaker at a dinner honoring Dr. Earle G. Brown, of Topeka, Kansas. The dinner was given by the Shawnee County Medical Society, at Topeka, March 5. Dr. Copher delivered two addresses, one on "Pathological and Clinical Considerations in Thyrotoxicosis" and the other on "Cholecystography: Physiological and Clinical Manifestations." Dr. Brown has been secretary of the Shawnee County Medical Society for the past ten years, except during 1918-19 when he was in the army service, and secretary of the Kansas State Board of Health for the past three years. A beautiful wrist watch was presented to him in token of the high esteem in which the members of the Society held him. About one hundred twenty-five persons were at the meeting.

Washington University, which has grown from an obscure seminary to a great institution with more than three thousand students, a valuation including endowments of nearly \$15,000,000, and international reputation in many fields of research and education, celebrated its Diamond Jubilee on February 22. Several hundred alumni observed the anniversary at dinner with the University Union in St. Louis, and surely hundreds of other graduates in the far corners of the world on that evening recalled with some pride the progress of this university which from the first was consecrated to freedom from religious or political bias. Physicians have a particular interest in this institution, for it is in medicine and allied fields that many if not most of its achievements have lain. Some of its researches in modern surgery and medicine, to say nothing of the thorough preparation of the men on whom a thousand communities depend in sickness, deserve the gratitude of the profession and indeed of humanity.

The tenth annual meeting of the Western Association of Physical Therapy will be held in Kansas City, under the presidency of Dr. J. E. G. Waddington, Detroit, Michigan, Friday and Saturday, April 20 and 21, at the Hotel President. The Good-Fellowship dinner will be given Friday evening, with Dr. William Benham Snow, New York City, as toastmaster. Among those who will respond are Drs. Curran Pope, Louisville, Kentucky; Frank Walke, Shreveport, Louisiana; Kerwin Kinard and Ralph W. Holbrook, Kansas City. The Western School of Physical Therapy will meet preceding the session of the Association, beginning Monday, April 16. The exhibit will occupy ten rooms, and daily demonstrations of equipment will be given. For further information address Dr. C. W. Fassett, Secretary, Kansas City, Missouri.

The American College of Physical Therapy is to review the work of 21 clinics in England, France, Switzerland, Austria, Germany and Denmark, sailing from New York on May 26. Many doctors already have signed up for the tour, both for the stimulating contacts with European methods and progress and for the refreshing antidote to the irksome confinement of work in special branches. Communications with specialists abroad, in preparation for the tours, elicited a response cordial beyond all expectations.

Preliminary lectures are to be given on board ship en route. London will be the first stop, with meetings at St. Bartholomew's Hospital and Lord Trelor Hospital, a reception at Middlesex Hospital and a clinical demonstration at London General. The party will be guests of the French Society of Electrotherapy and Radiology in Paris, visiting Salpetriere Hospital, the American Hospital and the clinics of Professor D'Arsonval and Dr. Riviere.

The first heliotherapy clinic ever established, that of Professor Rolliere at Leycin, will be visited and the itinerary for Switzerland also will include a clinical meeting at Zurich University. Dr. Kowarchik's clinic at Allgemeine Hospital and Kaiser Jubiläum Spital are on the list for Vienna, where additional clinics will be arranged as desired. A meeting and clinical discussion will be held in Dr. Rudolph Virchow's Hospital in Berlin, with Dr. Nagelschmidt presiding. The trip will end in Denmark, with a meeting at the Finsen Institute in Copenhagen and a clinic at the laboratory of Dr. Carl Sonne.

The college has invited any interested physician to attend the clinics. Further particulars may be obtained by writing to 25 Broadway, Suite 656, New York City.

Sedalia, by a three to one vote in special election March 6, took advantage of an offer of Mr. J. H. Bothwell which will enable it to erect a \$200,000 city hospital at an actual cost to tax payers of only \$100,000. The city voted a \$200,000 bond issue and Mr. Bothwell set aside a trust fund to retire half the issue at his death and also to provide \$50,000 for maintenance of the institution. The vote was 2189 to 7019, or more than 200 above the two-thirds majority necessary to carry the proposition.

A modern fireproof building is to be erected on the present site facing Fourteenth Street, adjacent to the present hospital, which will become the nurses' quarters. Practical arrangements have been taken up by the City Council for the sale of bonds and immediately after the negotiations are completed the architect will be selected, plans drawn and construction begun.

Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, spoke on quackery at a recent session of the Liberal Forum of the St. Louis Y. M. H. A. He touched on dietary fads and "beauty surgery," and said that quacks, excluded from many newspapers, now are advertising by radio. He concluded:

"The incompetent or dishonest physician, licensed to practice by a complacent state, is far more of a menace to scientific medicine than all of the peculiar cultists and quacks that may be enumerated. Cultism and quackeries come and go, but scientific medicine progresses with a steady pace. The irregular physician who injures the good name of the profession through his abuse of the title conferred upon him by some diploma-selling college throws discredit on the name of the profession and upon its ideals."

Incidentally, Dr. Fishbein takes a mighty wallop in *The Journal* at a volume by Dr. James J. Walsh consecrated to the extension of that impeccable scientific axiom, "Laugh and grow fat," to—well, even to the prevention of diabetes. Apparently Dr. Walsh would distinguish men not as homo sap., but as the laughing animal, a distinction which he refuses to the hyena and the Australian bird commonly called the Laughing Jackass. He grows enthusiastic about the massage of the viscera by the diaphragm in laughter, the privilege of man alone. Dr. Fishbein pointed out that similar massage and all its benefits was enjoyed by the mooing cow, the howling dog, the coughing invalid, the squalling infant or the braying jackass, and added that if Dr. Walsh were right, then the passing of the old flivver was a calamity to public health.

It may be of interest to physicians and especially to physicians' wives to learn that an investigation by the Department of Agriculture has removed from the realm of folklore the common idea that cedar chests protect clothing from moths. The Department has determined that moths cannot develop from the eggs or larvae in chests of genuine red cedar, *Juniperus Virginia*, although care should be taken to exclude adult moths and the clothing should be carefully brushed when laid away.

Many chests, however, are birch or gumwood with a red cedar veneer, according to the Better Business Bureau, of St. Louis, and the moths find these a comfortable and attractive home. The Department of Agriculture found that clothing was effectively protected in chests at least 70 per cent. three-quarter-inch red cedar. Only in case your cedar chest comes up to those specifications can you expect to find the old dress suit, laid away after the Junior Prom, in good condition when you resurrect it say for the Alumni Reunion.

Growing attention to the problems of age is further evinced by the announcement of the New York Academy of Medicine that its first "Annual Graduate Fortnight," October 1 to 13 next, will be devoted to "The Problem of Aging and the Diseases of Old Age." Each year the Academy plans to treat some outstanding problem of medicine or surgery with a program of lectures, clinics and courses in hospitals and teaching institutions. Study will be intensive, with three sessions a day and arrangements at the Academy for dinner between the afternoon and evening sessions. It is not expected that every physician will attend every session, but each may concentrate on the particular phases on which he most wishes to brush up. No fees will be charged for the Fortnight, although there will be a nominal charge for those who choose to attend special courses in connection with it at medical schools and teaching hospitals.

It is believed that the greatest benefit to specialists and general practitioners alike will be obtained by focusing all available knowledge and experience on a single definite problem each year. Diseases of the heart and affections of blood pressure and the kidneys will be studied this fall under the guidance of men of international reputation. Prevention of premature aging and postponing of "normal" aging will be considered along with the effects of modes of living, and attention will be given to the social aspects of the problem as it relates to health insurance, economics and industry.

The fourth award of the Leslie Dana Medal, presented annually through the Missouri Association for the Blind to the person selected from the nominations received by the National Society for the Prevention of Blindness, will take place during the 1928 meeting of the American Academy of Ophthalmology and Otolaryngology, in St. Louis. Nominations will be received by the National Society, together with detailed information prompting the nomination, until May 15, 1928. The medical profession and ophthalmological societies are invited to submit names of persons deemed worthy of this honor to the National Society, under the following conditions: (1) Long meritorious service for the conservation of vision in the prevention and cure of diseases dangerous to eyesight; (2) research and instructions in ophthalmology and allied subjects; (3) social service for the control of eye diseases; (4) special discoveries in the domain of general science or medicine of exceptional importance in conservation of vision.

Communications should be addressed to the National Society for the Prevention of Blindness, 370 Seventh Avenue, New York City.

An item of news particularly gratifying to old-timers in St. Louis is the reorganization of the City Hospital Alumni Medical Society, once the most active scientific group in St. Louis, but inactive for the past several years. Fifty-five men who had served their internship at St. Louis City Hospital attended the reorganization meeting, and elected Dr. W. T. Coughlin president and Dr. J. J. Burdick secretary. Some of those attending had removed to other cities and were in St. Louis for the Diamond Jubilee of Washington University, February 22, last.

The original constitution was retained, except that meetings of the reorganized society are to be held twice a year, in June and November. The old society met every month. Its papers were constructive and stimulating and its discussions were lively and authoritative. For almost 20 years following its formation in 1891 it was the center of scientific progress in the St. Louis profession and then one of its most vigorous leaders was elected president of the St. Louis Medical Society. Gradually he drew into the latter group all the forces which had distinguished the former. Reactions of both donor and recipient in this transfusion were typical, but it is gratifying to know that, while the St. Louis Medical Society has reached a status of service and support for which no other local body is likely to compete, there are signs of a quickening in the "first love" of many of its members.

Dr. W. T. (Pat) Coughlin, St. Louis, was a guest of the Fulton County Medical Society at a recent meeting held at Canton, Ill., and gave an address and clinical demonstration on "Cancerous Conditions About the Mouth and Pharynx."

Dr. Amante Rongetti has been sentenced to die in the electric chair in Chicago on April 13 for performing an illegal abortion on a 19-year-old girl and then allowing her and her baby to die through wilful negligence. Judge Comerford, of the Criminal Court, in overruling a motion for a new trial in this, the first death sentence for abortion ever meted out in Cook County, commented:

"Proof was made that the defendant performed a criminal abortion on Loretta Enders and left an unhappy 19-year-old girl to die because she did not have any money and had not paid her bill. It was shown that the defendant refused to perform an indicated operation after the abortion had been performed and after symptoms of peritonitis had set in. He refused to send her to another hospital where she might have had such an operation performed.

"It was shown that while the girl was dying this doctor turned a deaf ear to the pleadings of a heartbroken old mother that a priest of God be with her daughter at the end."

An ordinance providing that all dairies which do not pasteurize milk shall have tuberculin tested herds and that in two years all herds, including those of dairies which pasteurize, shall be tuberculin tested, has been adopted by the St. Louis Board of Aldermen to replace a pasteurization bill which was held unconstitutional by the Supreme Court when it was attacked by about 30 small dairies which do not pasteurize. This group of small dairies, which evaded the provisions of the earlier bill by litigation, appeared again in opposition to the new bill. It was held up in the Public Welfare Committee for about eight months before Health Commissioner Starkloff succeeded in convincing them that unconstitutional features had been eliminated and in obtaining a series of public hearings to smoke out the objections. In passing, it may be noted that the fight over the pasteurization bill was at its hottest when a number of cities were in disagreement about time, temperature, and other factors in pasteurization, and that their differences were a ready source of ammunition for the "experts" summoned by the opposition. Finding itself without an adequate milk ordinance the health department by redoubled in-

spection did much to eliminate regrettable conditions under which milk was prepared in some small dairies. A number of them went out of business and others brought their methods up to a more reputable status.

About ninety-five per cent. of the milk consumed in St. Louis is pasteurized. The larger concerns find pasteurization a good financial as well as sanitary measure. Of the remaining five per cent., two per cent. is certified.

In addition to the requirements for certification of all milk from tuberculin tested cows within two years, the bill requires the date of bottling to be indicated on the cap. This was one feature attacked by certain dairymen but carried through by Dr. Starkloff's insistence that it was vital. It is to be hoped that this ordinance will stand. Meantime, there is some encouragement in what a vigilant health department was able to accomplish by constant and rigorous inspection alone.

Infant mortality in the United States decreased 4 and 5 per cent. a year for the years 1918-1925 inclusive, according to figures compiled by Dr. Lee K. Frankel, of the Metropolitan Life Insurance Co. and quoted by the Children's Bureau of the United States Department of Labor.

The figures are not so encouraging as they may seem to indicate, however, for there was not the slightest mortality decrease in the first day of life, and only 1.8 per cent. a year for infants in the first month. But, for another encouraging note, deaths from injuries at birth have decreased more than 5 per cent. a year for the last ten years. The general mortality decrease was attributed to sanitary and economic improvements in the home but most particularly to a better knowledge of infant care and feeding, unquestionably fostered by effective public health campaigns in recent years. Here, again, is demonstrated the efficacy of telling the public clearly and simply—and repeatedly—all the facts it can absorb. Proper publicity has demonstrated itself one of the profession's strongest weapons, particularly in hygiene and prevention, and it seeks and should receive more and more of our thoughtful attention.

So far, the Children's Bureau reported, 42 states have laws requiring school medical inspection, but only 16 make it compulsory in all school districts. The Illinois State Department of Public Health, which has just received a moderate appropriation for an increase of staff and has inaugurated nursing services in 71 counties, plans now to place a nursing service in every one of the 102 counties in the state.

More than one fifth of the 90,000 fatal accidents in the United States in 1925 were to children under 14, and more than one ninth were to children under five, the Children's Bureau was informed by the National Safety Council. Two fifths of the fatalities to children under five were caused by burns, an eighth each in the period of 5 to 9 was caused by burns and automobile accidents, and nearly a sixth of the fatal accidents among children of 10 to 14 were caused by firearms. Since 1911, the United States and nearly all countries of like circumstances have cut the accident death rates from every cause except automobiles, but the growing automobile death rate has kept the general average high.

In addressing a meeting of 500 chiropractors and sympathizers in Philadelphia, February 26, Mr. B. J. Palmer, "the daddy of chiropractors," made some illuminating remarks. According to the *Pittsburgh Medical Bulletin*, he said: "Fully 80 per cent. of the chiropractors in Pennsylvania are practicing medicine, not chiropractic. That is a sorry fact, gentlemen—we are practicing medicine. During the last year, I have been in every state in the Union, and this condition exists throughout. My ideals concerning chiropractic were shattered. Chiropractic is doomed. You have drifted so far from the basic principles of chiropractic that you have lost your identity and brought the basic science bill upon your heads. Twenty-eight chiropractic schools have closed recently, and many others will follow. The supreme courts in seven states have handed down legal injunctions during the last eighteen months, whereby these states are lost forever to chiropractic. I warned Ohio not to compromise. They tried to pass a bill engrossing medical principles and practices. I predicted its failure. It lost by 250,000 votes. There has been \$250,000 of chiropractic money spent in California in the last year. You cannot defeat the ends of science. The basic science bills are the buck shot which we deserve for trespassing. When chiropractors preach and practice and try to become physicians, then it is justifiable for the medical men to educate the chiropractor. Now beat that argument if you can. That is why we are losing right along. This will probably be the last time you will see me as a chiropractor, as I do not propose to lose my good money in fighting against sound arguments." Incidentally, it is said that the number of students at Mr. Palmer's million dollar school at Davenport, Iowa, has decreased from 3,500 to about 300.—*J. A. M. A.*, March 17, 1928.

OBITUARY

ROBERT W. REA, M.D.

Dr. Robert W. Rea, Plattsburg, a graduate of Missouri Medical College (now Washington University School of Medicine), St. Louis. 1885, died January 23, 1928, at the Missouri Methodist Hospital, St. Joseph, of pneumonia, aged 67.

Dr. Rea was president of the Clinton County Medical Society at the time of his death, having been elected in December, 1927. He was also elected delegate to the State Meeting in 1928. He was a Fellow of the American Medical Association.

OMER WILLFER CLABAUGH, M.D.

Dr. Omer W. Clabaugh, Sedalia, a graduate of Bellevue Hospital Medical College, New York, 1893, died February 13, 1928, aged 60.

Dr. Clabaugh was a well known physician of Pettis County and had practiced in Sedalia for the past eleven years, coming from Green Ridge, Missouri, in 1917. He was a member of the Pettis County Medical Society. During the World War he served as Captain at Fort Oglethorpe and at Camp Williamsbridge, New York.

The exceptionally large number of relatives and friends who attended the funeral services held at the First Christian Church, Sedalia, and the many beautiful floral offerings showed the high esteem in which Dr. Clabaugh was held.

HENRY W. BEWIG, M.D.

Dr. Henry W. Bewig, St. Louis, a graduate of Washington University School of Medicine, 1891, died at his home February 5, 1928, aged 65.

Dr. Bewig practiced in St. Louis for more than thirty years, retiring from active practice about five years ago. He was born on a farm in Illinois and after attending the public schools there entered the Central Wesleyan College, Warrenton, Missouri, where he was graduated in 1888. Following his graduation from medical school he served as intern at the St. Louis City Hospital for two years then established his own office. He was a member of the St. Louis Medical Society, being an Honor Member since 1923, and a Fellow of the American Medical Association.

His remains were taken to Belleville, Illinois, for interment. One brother and two sisters survive. Among the bequests made by Dr. Bewig was one of \$5,000 to the Central Wesleyan Orphans' Asylum at Warrenton.

MISCELLANY

REPORT OF INSPECTIONS OF SCHOOLS of CHIROPRACTIC AND NATUROPA- THY IN THE UNITED STATES*

Personal inspections have recently been made of all schools existing in the United States for the teaching of particular methods of treating human diseases. While a complete report of all information secured would hardly be justified, a brief resumé of conditions found in schools of chiropractic and naturopathy will be of interest to both physicians and laymen.

Schools of Chiropractic

Chiropractic is said to have originated in 1895 with D. D. Palmer, a magnetic healer of Davenport, Iowa, and to have been "developed" by his son, B. J. It is in reality the older osteopathic concept very slightly modified and renamed. It was the enlarging of the osteopathic field and the lengthening of the osteopathic curriculum that gave chiropractic its opportunity, and the latter's rapid development has been due largely to the fact that it offered a short-cut to osteopathy.

According to this theory disease is due to vertebral subluxations which cause a pinching of spinal nerves between bones. This pinching interferes with the flow of "Innate Intelligence" or vital energy to the body tissues. The spinal "adjustment" alone renews that flow and restores health.

Chiropractic has had, during its brief career of thirty-two years, about one hundred and fifty schools. Forty of these are still active, many of them offering courses at night only and having a mere handful of students; more than half of the forty are so poorly housed and so inadequately financed that their future is problematic. B. J. Palmer, the "developer" of the cult, recently said: "According to our records, forty-eight chiropractic schools have closed their doors during the past two years."¹

An entrance requirement of four years of high school study or its equivalent is claimed by the best of these forty schools; it is probable, however, that not one of them is enforcing the requirement. Mature age, business experience, ability to carry the chiropractic courses, or any convenient achievement is declared to be a satisfactory equivalent. A few schools give ridiculously short and easy high school quiz courses and certificates, for which a special tuition fee is charged; this course in one of the best chiropractic schools² occupies two evenings weekly for six months. But fifty per cent. or more of these schools do not even claim to require a high school education.

The courses offered in the majority of these schools run through "three school-years of six months each." They are poorly chosen, poorly arranged, and very poorly outlined. The student may begin on any school day of the year and finish on the same day of the eighteenth month thereafter. There are no adequate records of amount or quality of work done. Going to school is a matter of "doing

* Inspections were made during the summer and fall of 1927 by representatives of the Council on Medical Education and Hospitals of the American Medical Association. The schools included in these inspections are the schools of chiropody, chiropractic, naturopathy, optometry, osteopathy and physical therapy, as well as a large number of miscellaneous institutions.

1. Article: "The Great Undertow."

2. National College of Chiropractic, Chicago.

time," and the student is given his doctor's degree as soon as the time limit expires. Legislation has forced a few schools to lengthen their courses to twenty-four or twenty-seven months. When this is done the school usually shortens its working day to three or four hours as compensation and holds out to the student his ability to spend the remainder of his time earning his expenses. Also, in almost any twenty-four or twenty-seven month school a student may graduate at the end of eighteen months if he declares his intention to practice in a state requiring only that amount of study. A few schools require less than eighteen months, and one of the most widely known gives only a home-study course that may be finished within three months.

The equipment invariably found in these schools consists of a few adjusting tables, students' chairs, and desks. Some have turned to physical therapy or naturopathy and installed a varying amount of electrical apparatus. A very few have X-ray machines, used (except in one instance³) in "spinography." About eight of the forty schools have small chemistry laboratories, with equipment for the very simplest experiments only. Two or three have dissection laboratories. None of the forty schools has laboratories for physics, physiology, physiological chemistry, bacteriology, histology, embryology, or pathology. Courses in these important laboratory subjects are either given by the didactic method or omitted altogether.

The clinics are not adequate for training in the recognition of even the most common disease. There is no adequate apparatus for the diagnosis of such diseases. The treatment procedures taught and practiced do not include the therapeutic measures of demonstrated value, and so the patient is left practically without either diagnosis or treatment. There are no hospitals to which patients in need of hospitalization are referred, and none in which students may study the progress of cases.

The faculties of these forty schools are made up of men of very poor educational qualifications. While a very few are both educated and shrewd, and an occasional doctor of osteopathy or even of medicine may be found among them, the great majority are not trained in any of the "medical sciences," the non-medical sciences, or the liberal arts. They are frankly out of sympathy with the organized medical and public health interests, and are openly antagonistic to many of the most universally recognized facts and procedures of civilized life.⁴ They circulate, by word of mouth and through the school literature, greatly misleading statements about the chiropractic "profession," ambiguous testimonials concerning the cure of incurables, and wild claims about the schools themselves which a most superficial investigation proves to be without foundation in fact.⁵

3. The Pasadena College of Chiropractic reports that its students are taught X-ray therapeutics.

4. For example: vaccination, typhoid immunization, specific medication, diphtheria antitoxin, quarantine, focal infection, germ theory of disease, etc., etc.

5. Thirteen of these schools have made affidavits to the American College of Chiropractors that the curriculum includes 3528 forty-five-minute hours of work, and on the basis of these affidavits have been rated by this "college" as "class A schools" and awarded "diplomas of honor." Allowing for ten-minute intervals between classes and five school days per week (considering that not a single holiday is allowed during the eighteen months of the course), this schedule would require more than eight hours of actual attendance daily, a program which no school of any nature would attempt to follow. The American College of Chiropractors admits that none of these schools were inspected prior to their being rated and that none of their claims have been investigated since.

Schools of Naturopathy

While a venerable old age is claimed for naturopathy its development has really been more recent than that of chiropractic; its chief exponent, Benedict Lust, of New York, claims that he organized the "parent school" in 1896, but even so ancient an origin as that is improbable.

The cult seems to have no basic idea, but to be rather a nature-cure hodge-podge with a decided antipathy to drugs. In fact, naturopathy has developed in part as an effort to broaden the scope of chiropractic. There are about five schools of naturopathy and all of them teach chiropractic. Several of the chiropractic schools teach naturopathy. Probably fifty or even seventy-five per cent. of the practicing naturopaths have been recruited from the ranks of chiropractic and the two cults have always been on the friendliest terms.⁶

Entrance requirements are said to include four years of high school study or its equivalent, but none of the schools of naturopathy really enforces this rule. Records are not kept; the student's word is taken in the matter, and if he is so thoughtless as to confess that he lacks the high school requirement the matter is either forgotten or patched up with as little embarrassment as possible. One school offers a night course in which the deficiency may be made up (extra tuition being charged for this service) but admits that the requirement has never been enforced.

The courses run through twenty-four or thirty-six months, with a short school day and an evident carelessness regarding attendance. It is probable that only one school has day classes. These institutions show a marked tendency to have students attending two or more "schools" simultaneously. One school, for example, which claims to operate under about twenty different names, offers "a liberal reduction to students taking four or more courses (schools) at the same time." Another tried to enroll the inspector in two "schools" at once when fifty per cent. of the sessions of one conflicted with the sessions of the other. One school counts attendance in each class twice, once for naturopathy and once for chiropractic, and so claims to pile up 6000 class-hours (thirty-minute periods) of study, thus "qualifying" under the new Florida law; this school gives every student two diplomas, and many students three or more, each diploma bearing a different name for the school. No outline of the courses offered is published by any of the schools of naturopathy.

The subjects include sismotherapy, glucokinesis, zone therapy, physicultopathy, astrological diagnosis, practical sphincterology, phrenological physiology, spectrochrome therapy, iridiagnosis, chiropractic, diet, hydrotherapy, osteopathy, physiotherapy, electrotherapy, mechanotherapy, heliotherapy, tension-therapy, naprapathy, neuropathy, physical culture, and many others.

The equipment in these schools differs little (if at all) from that found in schools of chiropractic, except that a small amount of electrical apparatus is usually found, and adjusting tables are not quite so much in evidence. A small chemistry laboratory is usual; that of the "parent school" in New York has room for two or possibly three students, but has not sufficient equipment for so large a number to perform the same experiments at the same time.

6. The chiropractor may easily become a naturopath by taking a three-month "post-graduate" course in one of the naturopathic schools.

There are no laboratories for physics, physiology, physiological chemistry, anatomy, bacteriology, histology, embryology, or pathology.

The clinics are even less adequate than those of the chiropractic schools. No school of naturopathy has a hospital associated. The therapeutic procedures include chiropractic, osteopathy, hydrotherapy, electrotherapy, diet, and a wide range of so-called "natural methods."

The faculties of these schools are composed of untrained men, many of whom have been recruited from the schools of chiropractic. Their educational qualifications are so like those of teachers of chiropractic that no further statement is necessary. That such instructors should train students in the proper use of so wide a variety of therapeutic measures, and do it within the short time allotted, is obviously impossible.

General Discussion

In such a brief report many matters of interest must be entirely omitted and many others no more than mentioned; elaboration, though a constant temptation, is one which brevity forbids. But to one who is familiar with the elaborate equipment and curriculum found necessary to proper training in the science and art of healing today, the most impressive thing about these naturopathic and chiropractic schools is not what they are, but what they are not. A few statements from this point of view will properly close the report itself and also form an appropriate prelude to the list of schools following.

1. Of the fifty active schools listed, a few are mere "branches" rather than separately existing institutions, and these fifty constitute less than one-third of the number formerly existing.

2. All but a mere handful of these fifty existing schools are so poorly housed and so inadequately financed that their continuation is problematic.

3. Very few of these schools have even one adequately trained teacher on the faculty, and there are probably less than five expert all-time teachers in the entire lot of fifty institutions.

4. Not one of these schools actually enforces a matriculation requirement of even five minutes of high school study.

5. Not one of the fifty schools gives so much as one worthy laboratory course or has one worthily equipped laboratory.

6. Not one of these schools conducts a clinic in which a wide variety of the common diseases may be studied.

7. There is not one clinic equipped with the trained personnel or the scientific apparatus for the clinical diagnosis of a variety of the common diseases, nor having a laboratory equipped for checking such clinical diagnoses.

8. There is not one clinic equipped for the proper treatment of patients suffering from such diseases.

9. There is not one of these schools whose students or whose faculty may enjoy the privilege of practice or even of observation in any worthy hospital.

10. There is not one of these schools that does not proceed on the basis of unproved theory, ignoring the lack of endorsement by all worthy educational institutions.

11. There is not one of these schools that does not ignore or even avowedly oppose the scientific point of view and the facts of medical science accepted by the authorities of the entire civilized world.

12. There is not one of these schools that does not owe its existence to the fact that it offers a shortcut to the practice of medicine.

Schools of Chiropractic

CALIFORNIA

Berkeley

Berkeley Chiropractic College, 2168 Shattuck Ave.

Los Angeles

Gale College of Chiropractic, 1406 W. 7th St.

Los Angeles College of Chiropractic, 918-20 W. Venice Blvd.

Ratlidge System of Chiropractic Colleges, 2415 S. Western Ave.

Oakland

West Coast Chiropractic College, Inc., 14th St. and 7th Ave.

Pasadena

Pasadena College of Chiropractic, 1608 N. Fair Oaks Ave.

San Diego

Clewell Chiropractic College, 1574 Fourth St.

San Francisco

San Francisco College of Chiropractic, 1067 Market St.

COLORADO

Denver

Colorado Chiropractic University, 14th St. and Cleveland Pl.

DISTRICT OF COLUMBIA

Washington

Chiropractic Research University, 1349 L. St. N. W.

GEORGIA

Atlanta

Atlanta Chiropractic College, 286 W. Peachtree St.

ILLINOIS

Chicago

American University, 34 W. Lake St.

National College of Chiropractic, 20 N. Ashland Blvd.

INDIANA

Evansville

Evansville Chiropractic College, Inc., 501 Main St.

Fort Wayne

Ross College of Chiropractic, Inc., 1311 Webster St.

Indianapolis

Central States College of Chiropractic, 412-13 Kresge Bldg., 41 E. Washington St.

Lincoln Chiropractic College, Inc., 518 N. Delaware St.

IOWA

Davenport

Palmer School of Chiropractic, 800-1100 Brady St.

KANSAS

Wichita

Colvin Chiropractic College, 237 S. Main St.

MARYLAND

Baltimore

Maryland College of Chiropractic, 520 N. Charles St.

MINNESOTA

Minneapolis

Minnesota Chiropractic College, Inc., 70 Willow St.

MISSOURI

Kansas City

Chiropractic University, 10th and Campbell Sts.
Cleveland Chiropractic College, 1417 Linwood Blvd.

Western College of Chiropractic, 2021 Independence Ave.

St. Louis

Missouri Chiropractic College, 706 N. Grand Blvd.

NEBRASKA

Lincoln

Nebraska Chiropractic College, Orpheum Bldg., 1134 P. St.

NEW YORK

New York

Carver Chiropractic Institute, 71 W. 23rd St.
Columbia Institute of Chiropractic, 111 W. 83rd St.

New York Eastern Institute of Chiropractic, 124 W. 74th St.

Standard School of Chiropractic, 44 Fifth Ave.

OHIO

Akron

Akron College of Chiropractic, 985 E. Market St.

Cleveland

Blodgett Chiropractic College, 565 Rose Bldg., 2062 E. 9th St.

Metropolitan Chiropractic College, Inc., 4501 Prospect Ave.

OKLAHOMA

Oklahoma City

Carver Chiropractic College, 521 W. 9th St.

OREGON

Portland

Pacific Chiropractic College, Inc., 125 N. Grand Ave.

PENNSYLVANIA

Philadelphia

Doughty-Marsh College of Chiropractic, 4201 Walnut St.

National Chiropractic College, 2324 Columbia Ave.

Pittsburgh

Universal Chiropractic College, 1940 Fifth Ave.

TEXAS

San Antonio

Texas Chiropractic College, 602-606 W. Myrtle St.

WASHINGTON

Seattle

Seattle College of Chiropractic, 401-4 Lowman Bldg., 1st Avenue and Cherry St.

Schools of Naturopathy⁷

CALIFORNIA

San Francisco

International School of Professional Arts and Sciences, 860 Geary St.

7. Of the ten schools listed three are branches only and two others were not active at the time of the inspection.

FLORIDA

Miami

Blumer College of Naturopathy, First Ave. and Third St.

MAINE

Portland

American School of Naturopathy, 28-31 Hammond Bldg., 12 Monument Square.

MINNESOTA

Minneapolis

Great Northern University, room 203, 2624 E. Lake St.

NEW JERSEY

Newark

First National University of Naturopathy, 143 Roseville Ave.

NEW YORK

New York

American School of Naturopathy, 236 E. 35th St.

PENNSYLVANIA

Aetna

Naturopathic College, 27 Freeport St.

Philadelphia

Franklin Research University (School of Naturopathy) 718 Spruce St.

Naturopathic College and Hospital, 1333 N. Broad St.

Wilkes-Barre

Naturopathic College, 252 N. Main St.

REPORT OF INSPECTIONS OF SCHOOLS OF CHIROPRACTIC IN MISSOURI*

There are four schools of chiropractic in Missouri, three being in Kansas City and one in St. Louis. None of them own their own buildings. They are almost altogether devoid of equipment. They move often, have but a handful of students, and lead a very precarious existence.

1. Chiropractic University

This school occupies the second floor of a brick business building on Tenth and Campbell Streets, Kansas City. It uses five rooms, two of which constitute the home of the school's president and his family. There have been recent financial reverses. The latest catalog bears the date 1922-1923. While there are said to be "about eight or ten" on the faculty, the school claims only "eighteen or twenty" students. The only faculty member claiming any educational honors except in chiropractic is the president himself, who claims graduation from a sectarian medical school now extinct and never rated higher than class "C."

The courses may be started at any time and finished within either eighteen or twenty-seven months at the discretion of the student. The equipment consists of a few adjusting tables, chairs, and desks. There are no laboratories and very few clinic patients. It is probable that the school will not survive long.

* During the summer and fall of 1927 representatives of the Council on Medical Education and Hospitals personally inspected all schools in the United States teaching particular methods of treating human diseases. This report is the result of the inspections in Missouri.

8. Students are permitted to remain for twenty-seven months if they desire to qualify for practice in Missouri.

2. Cleveland Chiropractic College

This school rents an old three-story brick residence at 1417 Linwood Blvd., Kansas City. So much space is rented because it happens to be in the building, not because the school needs it. The equipment is very meager. Twenty-seven students were said to be attending at the time of inspection; the faculty is composed of eight members, none of whom claim any educational degrees except in chiropractic.

The course may be eighteen or twenty-seven months long at the discretion of the student. A student may enter at any time, and may take a vacation when he so desires; the only requirement is that he finally put in the amount of time agreed on. The number of students is admitted to have decreased recently. The president virtually admitted that chiropractic itself is on the wane.

The inspector heard a portion of a lecture by the president of the school to a class of senior students. The subject was "Gonorrheal Rheumatism." In this lecture he described the difference between gonorrhea and a bad cold as follows: "When the nose gets stopped up you can breathe through your mouth; but in gonorrhea, when the discharge stops up the urethra it shuts off the flow of urine and the patient may have to be catheterized. If so, you will have to decide whether you will catheterize the patient yourself or call in a medical doctor. This inflammation sometimes causes the walls of the urethra to stick together, and such adhesions are called 'stricture.' These strictures sometimes have to be broken up by putting in what's called a 'sound.'"

Such teaching is all the chiropractic student usually gets. He never sees a catheter, a sound, or a case of urethritis. He gets only a few lectures, and from men whose knowledge is just as "muddy" as this "college president's."

3. Western College of Chiropractic

This school, the successor to the Missouri-Kansas School of Chiropractic, is located at 2021 Independence Avenue, Kansas City. It occupies an old brick dwelling house which it does not own, and which is also the home and office of the dean. The equipment consists of about twenty opera chairs, seven adjusting tables, a desk, and the meager furnishings of the dean's private office.

There is a faculty list of seven, two of whom claim graduation from Class "C" medical schools,⁹ now extinct. A third man is an osteopath. The other four claim only chiropractic degrees. "Around twenty-five" students were said to be in attendance at the time of the inspection. The courses run through eighteen or twenty-seven months at the discretion of the student. There are no laboratories and no hospital facilities.

4. Missouri Chiropractic College

This school occupies the second floor of a building at 706 North Grand Boulevard, St. Louis. The equipment is extremely poor, consisting only of a few old adjusting tables, chairs, and desks, with a crudely constructed apparatus for practicing the "chiropractic thrust."

On the faculty are four men only one of whom possesses even a bachelor's degree. There were said to be sixty students only ten of whom were seen. The others were said to be "in the night class." The day school course covers four clock-hours daily for

9. One of the schools was closed by court order, because it operated a diploma mill.

eighteen months, and the night course three clock-hours nightly for twenty-four months, a total of 1560 clock-hours. If a student desires to remain for twenty-seven months in order to qualify for practice under the Missouri law that privilege is allowed. There are no laboratories. Although this school has absorbed two or three others and is now the only chiropractic school in St. Louis its work is of extremely low grade. The one instructor at the school at the time of the inspection was telling a class of ten students that hay fever was due to changes of temperature.

General Discussion

The best thing that can be said about such schools as those discussed above is that they usually live but a short time. That the dying schools are replaced by new ones is a deplorable fact but one hard to change.

The operation of such doctor factories is in a way made easier by their lack of equipment. They have no laboratories, no hospitals, no permanent relationships. They can move easily and take advantage of cheap rent.

These schools make a special appeal to "prospects" who have not even a high school background against which to weigh their theories. They charge high tuition fees, collect in advance, and leave the student to make the best of the situation. The student gets what he can, keeps his mouth shut, sets himself up as a "doctor" and makes the suffering public pay. The scheme often works; nearly all chiropractic schools teach salesmanship.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES
WHICH HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society met in regular session Thursday, February 24, 1928, at the Court-house in Butler. Due to the condition of the roads the attendance was small.

Officers elected to serve during the year 1928 are: President, A. B. Freeman, Rockville; secretary-treasurer, Carter W. Luter, Adrian; delegate, H. A. Rhoades, Foster; alternate, R. E. Crabtree, Butler;

board of censors, E. E. Robinson, Adrian; H. W. Insley, Rich Hill; E. N. Chastain, Butler.

Dr. Basil O. Hartwell, Drexel, was granted a transfer to the Cass County Medical Society.

The records were turned over to the new officers, and the meeting adjourned.

GEORGE H. THIELE, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The meeting of the Buchanan County Medical Society was held at St. Joseph, January 18, 1928. The President, Dr. E. Gummig, St. Joseph, called the meeting to order at 8:15 p. m. Forty-two members were present. The minutes of the previous meeting were read and approved.

It was moved that the President, Dr. E. A. Gummig, St. Joseph, appoint a member of the Society to act on the State Auxiliary Committee on Public Policy. Seconded by Dr. J. M. Bell, St. Joseph, and carried.

Dr. Paul Morton Krall, Department of Medicine, University of Kansas, Kansas City, Kansas, addressed the Society on "The Endocrines."

Dr. Krall's subject was intensely interesting and showed that he had devoted much time and thought to its preparation. He was given a rising vote of thanks by the members of the Society for his splendid contribution.

Meeting of March 7, 1928

The regular meeting of the Buchanan County Medical Society was held at St. Joseph, March 7, 1928. The meeting was called to order by the president, Dr. E. A. Gummig, St. Joseph, at 8:15 p. m. The minutes of the previous meeting were read and approved.

The application of Dr. George M. Boteler, St. Joseph, was passed on favorably by the board of censors and voted on by ballot. Dr. Boteler was unanimously elected a member of the Society.

Dr. W. T. Elam, St. Joseph, reported for the Committee on Public Health and Legislation, regarding the fraudulent advertising of Dr. S. E. Ball, Excelsior Springs, over the radio. Dr. Elam announced that the work of the Committee is progressing and a more complete report would be given later.

The question of liability insurance in the form of group insurance in one company against malpractice was considered. It was moved that each member be permitted to select the company he desires. Motion seconded and carried.

Due to the prolonged stay in Europe of Dr. G. A. Lau, St. Joseph, censor, it was moved that another member be elected to fill the vacancy until Dr. Lau returns. Dr. L. J. Ferguson, St. Joseph, was elected censor.

F. L. HOWDEN, M.D., Secretary.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in the Methodist Episcopal Church, Polo, Thursday, January 26, 1928. Members present: Drs. Tinsley Brown, Hamilton; B. F. Carr, Polo; G. S. Dowell, Braymer; J. E. Gartside, Kingston, O. C. Kilbourn, Cowgill; H. H. Patterson, Braymer; T. W. Scanlon, Polo; W. S. Shouse, Kingston. The minutes of the meeting held at Braymer, November 10, 1927, were read and approved.

The following officers were elected for 1928: President, G. S. Dowell, Braymer; secretary-treasurer, Tinsley Brown, Hamilton; vice president, C. H.

Wilbur, Polo; delegate, O. C. Kilbourn, Cowgill; alternate, Tinsley Brown, Hamilton.

The matter of prevention of disease was brought up and discussed. The members agreed on the thorough quarantine of all contagious diseases and the means of prevention by vaccination, and the Society adopted the following resolution:

Resolved, That the Caldwell County Medical Society recommends that all children of school age be vaccinated against smallpox and other diseases affected by vaccination.

This meeting proved to be one of the best the Society has enjoyed for some time.

TINSLEY BROWN, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The February meeting of the Clay County Medical Society was held at the Excelsior Springs Sanitarium and Hospital, Thursday evening, February 23, 1928. This sanitarium is the only institution in Excelsior Springs that is recognized by the American Medical Association. The hospital staff invited the Society to dinner and included our neighbor, the Ray County Medical Society, in the invitation. Forty-nine members, guests and their wives took seats at the sumptuous banquet table. A dozen trained nurses of the hospital force served the guests at the table, led by Mrs. Mayme Hill, diminutive superintendent of nurses. The girls were introduced to the assembly singly by Dr. C. H. Suddarth, Excelsior Springs, in his customary happy vein, bringing rounds of applause; and no one enjoyed the meeting more than the faithful lieutenants of our physicians. It will be hard to forget February 23, 1928.

Dr. Spence Redman, Platte City, our much esteemed Councilor, honored us by his presence—everybody loves Dr. Redman.

From the Ray County Medical Society came its President, Dr. Grover Gaines, Rayville; Drs. C. B. Shotwell and L. D. Greene, Richmond; Drs. Edwin Shouse and J. H. Roney, Lawson. We missed their Secretary, Dr. R. L. Hamilton, Richmond.

After dinner came the scientific session and the meeting of our Women's Auxiliary, with the presiding officers, Dr. S. R. McCracken, Excelsior Springs, and Mrs. J. J. Gaines, Excelsior Springs, in their respective chairs. The ladies reported hearing a good paper read by Mrs. Y. D. Craven, Excelsior Springs, on "The 6-point Examination," and that the Secretary, Mrs. J. E. Musgrave, Excelsior Springs, read a letter from the State President, Mrs. W. M. Bickford, Marshall, on the progress made by the state auxiliaries during the year. Also, that Mrs. C. H. Suddarth, Excelsior Springs, spoke for Hygeia very enthusiastically and secured several subscriptions to the splendid publication.

Dr. C. B. Shotwell, Richmond, veteran practitioner of the Ray County capital, addressing the Clay County Medical Society, gave a very timely address from his notes on "Medical Education." The doctor's forecast was not very encouraging for the rural districts and the future supply of doctors for them. Requirements involve time and expenses, the latter nearing prohibition. He spoke for more earnest endeavor on the part of the rural practitioner, better books and journals, and more diligent study of both. He believed that most country doctors could solve their own problems by putting the shoulder to the wheel and faltering not if sweat dimmed the eyes. Dr. Shotwell's address drew the bulk of the evening's discussion.

Dr. J. H. Rothwell, Liberty, who is always present, seemed to forsake his usual reserve, and gave us a heart to heart specimen of Rothwellian ex-

perience and struggles, overcome by perseverance and devotion to his cause. He explained that sore eyes and glaucoma were far from being one and the same thing. He had seen first-rate curettements done with buttonhooks and fragments of wire from the fence by that prince of wizards, the old country doctor. Every member present joined in this most interesting discussion.

Dr. J. E. Baird, Excelsior Springs, read a paper on "The Relation of Infections to Diabetes." Those who have heard the doctor before declared this his best paper read before the Society.

Dr. E. C. Robichaux, Excelsior Springs, gave a talk on "The Present Status of American Mineral Water Resorts." He flayed the press of the United States, along with the general public, for neglect if not utter ignorance of these most valuable assets. "If the American public put one-fourth the energy in behalf of these great natural benevolences that the Europeans put in theirs the American resort would boast standing room only." Dr. Robichaux was requested by unanimous vote to submit his paper to some worthy magazine of his choice for publication.

Dr. J. J. Gaines, Excelsior Springs, reported a remarkable case of a woman, aged 70; diabetic gangrene left foot. Renal function, 40 per cent.; blood sugar, 145 mg. Amputation above knee last Monday under local anesthesia by Dr. J. E. Musgrave, Excelsior Springs, and assistants. Total absence of shock. Recovering. Insulin controlled blood sugar. Patient now in Excelsior Springs Sanitarium.

Then adjournment, and a general round of hand-shaking.

J. J. GAINES, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The Grundy County Medical Society met in regular session March 6, 1928, in the auditorium of the Jewitt Norris Library, Trenton. The following members were present: Drs. E. A. Duffy, T. E. Moore, J. E. Neely, Deborah Doan Phillips, O. R. Rooks, Bertha Sheetz, and W. H. Winningham, of Trenton. Visitors: Drs. Donald R. Black and James G. Montgomery, Kansas City; R. J. Brennan and Reuben Barney, Chillicothe; G. M. Bristow, Councilor of the Fourth District, and Arthur G. Bristow, Princeton; Ola Putman, Marceline. The minutes of the last meeting were read and approved.

An interesting paper on "Pernicious Anemia," illustrated with lantern slides, was presented by Dr. Donald R. Black, Kansas City.

"Splenic Anemia" was the subject of a paper read by Dr. James G. Montgomery, Kansas City.

The Society extended a vote of thanks to the Southwest Clinical Society and also to Drs. Black and Montgomery in appreciation of the excellent program they furnished.

E. A. DUFFY, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session at a banquet in the Colonial Room of the Connor Hotel, Joplin, January 10, 1928, at seven o'clock. Thirty members and twenty-eight visitors were present.

While the dinner was being partaken of, entertainment was furnished by Mrs. Welsh and Mrs. Wilder. Mr. Earl Russell together with Dr. J. A. Chenoweth, Joplin, accompanied by Mr. Wickum, favored the Society with a number of vocal and

piano solos as well as a number of pep songs which were heartily enjoyed.

Dr. H. D. McGaughey, Joplin, gave a most interesting scientific program consisting of motion pictures of the gastro-intestinal tract with special reference to gastric ulcer, for which the Society was very grateful.

Following the scientific program an hour of fun and frolic was indulged in. The Wayne Cox orchestra favored us with several selections for which we wish to thank them very kindly. The prophecy of the meeting of 1945 was read by Dr. J. I. Tyree, Joplin. After due consideration and loud applause it was pronounced complete in toto and approved without question.

Last, but not least, was the mock trial of Dr. O. L. Alberty, Carl Junction, he having been charged with unprofessional conduct by Dr. L. B. Clinton, Carthage. A copy of the charges has been duly filed with the secretary. The president, Dr. John L. Sims, Joplin, appointed Dr. R. M. James, Joplin, to act as Judge and Dr. A. M. Gregg, Joplin, as the defendant's attorney. A number of witnesses were called for and against, and after both sides had presented their arguments the defendant was found not guilty.

Meeting of January 17, 1928

The Society met January 17, 1928, at the Y. M. C. A., Joplin, at eight o'clock. There were eleven members and four guests present. The minutes of the meetings of January 3 and January 10, 1928, were read and approved.

The board of censors reported favorably on the application of Dr. G. Kaemmerling, Webb City, and it was moved that he be elected to membership in the Society. The motion was seconded and carried and Dr. Kaemmerling was elected a member of the Society.

Dr. Clyde Benage, Pittsburg, Kansas, read a paper on the "Early Diagnosis of Malignancy of the Stomach." He discussed the etiology and symptoms of the disease and the laboratory and physical diagnosis. Dr. Benage was complimented very highly on his well presented paper. It was discussed by several members.

Dr. H. E. Marshbanks presented a paper on "Nephritis." He followed the classification of Volhard and Fahr and presented cases for each classification with the physical and laboratory reports. He laid special stress on the blood chemistry report and its significance in these cases. This was an excellent paper since it covered all the latest data on the proper diagnosis of these cases.

Meeting of January 31, 1928

The Jasper County Medical Society met at the Joplin Y. M. C. A. at eight p. m., January 31, 1928. In the absence of the President, Dr. John L. Sims, Joplin, on account of illness, and our Vice President, Dr. E. D. Hatcher, Carthage, Dr. L. C. Chenoweth, Joplin, acted as president pro tem. The minutes of the meetings of January 10 and January 17, 1928, were read and approved.

The application of Dr. Frank A. Brown, Joplin, for membership in the Society was read and referred to the board of censors.

Dr. A. M. Gregg, Joplin, introduced our guest and essayist for the evening, Dr. F. T. H'Doubler, Springfield. Dr. H'Doubler gave a lecture on "Goiter," covering the subject in a most interesting manner. He first classified the types as to symptoms and stressed the features which each presented. The importance of early diagnosis to preserve the heart,

the management of the cases, particularly the preparation for operation, with the administration of Lugol's solution for a short period, were stressed. The effects of this drug on these cases were shown to be transient, therefore, its effect was most needed in the preparation of the case for surgery. Many little points were brought out which were of interest to the surgeon as well as the internist, especially the fluctuation of the basal metabolism, which should be done first to establish the diagnosis and then to follow up the case under treatment. Other preoperative and postoperative points were mentioned. Many case reports were presented to cover the different types.

Dr. H'Doubler's lecture was very interesting and was enjoyed by all.

ROY E. MYERS, M.D., Secretary.

THE KANSAS CITY ACADEMY OF MEDICINE

Meeting of January 27, 1928

USE OF SYNTHALIN IN DIABETES.—

By DR. RALPH MAJOR.

Two theories in regard to diabetes mellitus are that there may be excess sugar production of hepatic origin (Von Noorden), or diminished destruction of sugar due to pancreatic deficiency (Naunyn). Experiments with insulin support Naunyn's theory.

Frank, at Breslau, developed a guanidine compound known as synthalin which was less toxic than guanidine but still possessed the property of lowering the blood sugar. In 1926 German physicians reported favorable clinical results with synthalin, especially in mild cases and in aged individuals. A more liberal diet was possible.

Synthalin acts slower and more feebly than insulin. While both lower the blood sugar they have been experimentally proven dissimilar. Insulin increases glucose oxidation in the tissues while synthalin seems to depress glucose formation in the liver. Weight increases with insulin and glucose but not with synthalin and glucose. This seems to support Von Noorden's theory.

Fifteen patients were treated with synthalin in our clinic. In some it was possible to lower the blood sugar with insulin and keep it there with synthalin. In others there was a rise while on synthalin and it was necessary to resort to insulin. With a high protein diet there seems to be increased tolerance for synthalin. Toxic effects are evidenced by nausea, vomiting and diarrhea, but these symptoms are less marked when the preparation is given by mouth instead of hypodermically.

1. Certain mild diabetics apparently have increased glucose tolerance under synthalin.

2. Synthalin may be substituted for insulin in some cases.

3. Toxic effects of synthalin do not apparently contraindicate its use.

4. At times the action of synthalin appears inconstant.

DISCUSSION

DR. A. C. CLASEN: In Germany there was much enthusiasm until toxic effects of synthalin were observed. Some patients show intolerance and some have hyperglycemia under synthalin. Little work has been done on juveniles. Synthalin does not seem effective in advanced cases of diabetes.

DR. E. A. BURKHARDT: Is it possible that diabetes is due to hepatic activity on the one hand and to

pancreatic deficiency on the other, and that this may explain the actions of insulin and of synthalin?

DR. MAJOR, in closing: Both theories of the cause of diabetes sound plausible with the evidence now at hand. Perhaps both factors are operative, one possibly more than the other. If synthalin by mouth can even partially replace injections of insulin this is gratifying to the patient. The discovery of synthalin is probably only the first step toward the eventual preparation of a nontoxic substance that is active when given by mouth.

NEUROLOGICAL CLINIC.—By DR. E. T. GIBSON.

Most body tissues have a limited life, degenerate, and are replaced by others. Nerve tissues differ in that they may live the entire life of the individual and if destroyed are replaced only to a very limited extent. The various functional divisions of the nervous system differ in viability and resistance. The phylogenetically older ones are less easily affected than those of more recent acquisition. An example is found in multiple sclerosis where although a wide spread influence causes disseminated degeneration, there is nearly always found atrophy of the temporal side of the optic disks and absent abdominal reflexes in advanced cases. These two corresponding structures are of late origin, one associated with the assumption of binocular vision and the other with the erect posture. Occasionally a functional system degenerates early, and some of these cases are familial or hereditary.

PRESENTATION OF CASE

This 11 year old girl represents one of the familial types. The spinocerebellar tract is chiefly involved and the disease is called Friedreich's ataxia. Different parts of the cerebellar system may be affected. In Marie's cerebellar ataxia the cerebellum itself degenerates. There are forms intermediate between these two types but the process is similar in each.

An essential cerebellar function is to check movement accurately at a desired point by contraction of the antagonistic muscles. If the function is impaired, rapidly repeated movements, like piano-playing, are impossible; the forearm flexed against resistance and suddenly released strikes the face; in walking the feet overstep.

This girl has a reeling gait, overreaches, and in grasping the movements do not verge into a single flowing gesture. When sitting, her foot shows the exaggerated arch of later stages. She has neutral plantar and no patellar reflexes and slight trophy of the optic disks. There is usually some lateral column degeneration in this disease. She is one of fifteen children and two are helplessly bedridden.

Equilibratory exercises have led to distinct improvement. Only occasionally however does a case cease to become progressively worse.

DISCUSSION

DR. B. LANDIS ELLIOTT: The general practitioner does not see these degenerative conditions frequently but he does see many instances of organic nervous disease and should be able to orient himself rapidly. Examination of the reflexes is obviously advantageous in that the active cooperation of the patient is not demanded. The pupillary light reflex, the deep tendon and abdominal reflexes and Babinski's sign are important. The pupillary reflex may be altered in syphilis and encephalitis. Absent abdominal reflexes suggest multiple sclerosis, except in

the aged or obese. Absent knee jerks suggest tabes, but may be found in diphtheria and in peripheral neuritis. Before Babinski's sign was described patients were frequently under observation for months to determine whether a paralysis was organic or functional.

SURGICAL CLINIC.—By DR. C. C. NESSELRODE.

PRESENTATION OF CASE

Case No. 1. Housewife, 28 years old, mother of five children. Complaint, recurrent dyspnea and fatigue on exertion. Duration 2 years. Had thyroid enlargement at puberty and also at each pregnancy. *Examination:* Pulse rate 96 resting, 124 on exertion; tremor; vasomotor disturbances; bilateral nodular thyroid enlargement; B.M.R. plus 32; urine, Wassermann, blood counts negative.

Plummer believed Lugol's solution valuable in the treatment of Graves' disease, but not valuable and even harmful for toxic adenoma. Graham and Cutler found no difference in the response of these two groups to Lugol's solution. We use Lugol's solution in the preparation of both groups for operation. This patient received 15 drops of Lugol's solution three times a day and rested in bed preceding her operation, while her pulse improved and B.M.R. decreased, with slight increase in her hyperthyroidism. After one week, bilateral resection was done.

It is possible that Graves' disease and toxic adenoma are only different phases of the same condition. We do not consider toxic adenoma as neoplastic. Improvement under Lugol's solution is only temporary and operation must be resorted to eventually.

Dr. Evert Graham's recent work on dogs, as yet not published, indicates an important role of the thyroid gland with various infections. With increased production of iodine hypertrophy and hyperplasia occur until eventually perverted histological pictures appear. These pictures reflect the efforts of the thyroid gland in the defense mechanism.

1. The value and limitation of uses of Lugol's solution is presented.

2. The two groups, Graves' disease and toxic adenoma, probably represent different phases of the same pathological process.

3. Graham's work associates the defense mechanism of the body against infections with changes in the thyroid gland.

DISCUSSION

DR. CLAUDE HUNT: The surgical classification of goiters is colloid, adenomatous and exophthalmic. Potassium iodide is more beneficial to the exophthalmic rather than to the purely toxic type. I believe ligation of the superior poles will be done away with because of Lugol's solution. As much gland as possible should be removed. The adult apparently does not need as much thyroid as the young. X-ray treatment has been practically discarded.

DR. T. G. ORR: My impression is that toxic goiter and Graves' disease are not properly surgical conditions and that eventually the discovery of some fundamental factor will lead to correct treatment along other lines.

DR. JOHN HAYDEN: Thyroid disease is a symptom rather than an entity. In many ways, toxic adenoma is comparable to chronic cystic mastitis. Both are active at puberty and both undergo exacerbations and regressions.

DR. NESSELRODE, in closing: Even with postoperative symptoms of hypothyroidism the condition is

corrected with iodides. The mistake is that insufficient quantity of gland is removed. Preliminary ligation may be necessary when the patient has slipped back on Lugol's solution. Death in these thyroid cases is in our opinion not due primarily to hyperthyroidism but to its effect on the suprarenal glands with consequent fall in blood pressure.

NODAWAY COUNTY MEDICAL SOCIETY

The regular meeting of the Nodaway County Medical Society was held Friday, February 10, 1928, in the rooms of the county health department, Maryville. The attendance was numerically small because of very bad roads, but a quorum being present the meeting was called to order by the Vice President, Dr. C. P. Fryer, Maryville, at 7:30 p. m. Roll call showed the following members present: Drs. C. T. Bell, K. C. Cummins, Leslie E. Dean, C. P. Fryer, C. V. Martin, Robert C. Person, Frank M. Ryan, Frank C. Wallis and W. M. Wallis, of Maryville; C. D. Humbert, Barnard. Dr. Clinton K. Smith, Kansas City, and Dr. Green, of the State Normal faculty, were guests of the Society. The minutes of the meeting of January 13 were dispensed with pending their publication in the State Journal.

The financial report was omitted in the absence of the Treasurer, Dr. H. S. Dowell, Maryville.

The Secretary, Dr. C. D. Humbert, Barnard, informed the Society of his correspondence for the month of January.

The clinical programs to be furnished by the Kansas City Southwest Clinical Society were discussed.

As a topic for the April meeting Dr. C. V. Martin, Maryville, suggested a paper on some phase of acute pulmonary lesions.

Dr. C. P. Fryer, Maryville, opened the discussion concerning the Nodaway County Tuberculosis Association's diagnostic clinics which have been held at irregular intervals in the past, the Association hiring physicians from outside the county to make their examinations.

Dr. C. V. Martin, Maryville, moved that Dr. C. P. Fryer, Maryville, be authorized to notify the Nodaway County Tuberculosis Association that the Nodaway County Medical Society will be glad to cooperate with them and furnish examiners for the County Tuberculosis Association's diagnostic clinics at convenient times without charge. This was discussed by Drs. C. V. Martin and Frank M. Ryan, Maryville. Seconded by Dr. Frank C. Wallis, Maryville. Carried.

Dr. Robert C. Person, Maryville, moved that the Nodaway County Medical Society encourage the organization of a Woman's Auxiliary. Dr. K. C. Cummins, Maryville, seconded the motion. Carried.

The meeting was then turned over to Dr. Clinton K. Smith, Kansas City, who gave a resume on "Differential Diagnosis in Diseases of the Kidney," with case reports and illustrated with charts and X-ray pictures.

Dr. Smith's talk aroused considerable enthusiasm, and the Society was especially appreciative of his conservative ideas and his ethical attitude toward the relations between the general practitioner and the specialist.

After a lengthy round table discussion the meeting adjourned.

CHAS. D. HUMBERT, M.D., Secretary.

MADISON COUNTY MEDICAL SOCIETY

The Madison County Medical Society met at the office of the Secretary, Dr. W. Harry Barron, Fredericktown, on the evening of January 11, 1928.

Members present: Drs. M. B. Barber, W. Harry Barron, C. U. Davis and E. E. Higdon, of Fredericktown.

After the regular order of business was transacted the following officers were elected for 1928: President, E. E. Higdon, Fredericktown; vice president, S. C. Slaughter, Fredericktown; secretary, W. Harry Barron, Fredericktown; treasurer, M. B. Barber, Fredericktown; board of censors, C. U. Davis and S. C. Slaughter, of Fredericktown.

The President, Dr. E. E. Higdon, Fredericktown, appointed Dr. M. B. Barber, Fredericktown, a member of the Auxiliary Committee on Public Policy.

A general discussion was entered into concerning the control of infectious and contagious diseases of our county, especially that of diphtheria.

W. HARRY BARRON, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held February 8, 1928, at 3:15 p. m. in the Webster Groves Trust Company, Webster Groves, Missouri. The President, Dr. F. P. Knabb, Valley Park, presided. The following mem-

bers were present: Drs. J. H. Armstrong and D. H. Hanson, Kirkwood; H. N. Corley and W. F. O'Malley, Webster Groves; Joseph McNearney, E. E. Tremain and J. A. Sterling, Maplewood; F. P. Knabb, Valley Park; H. T. Coleman, Pattonville; O. W. Koch, St. Louis.

Dr. W. H. Olmsted, St. Louis, presented a very interesting and instructive paper on "Simple Methods in Mastering Diets in Diabetes." Numerous comments were made by the members and questions were answered by Dr. Olmsted.

The Society extended a rising vote of thanks to Dr. Olmsted for his splendid talk.

The Secretary, Dr. E. E. Tremain, Maplewood, read a letter from Dr. E. J. Goodwin, Secretary of the State Medical Association, as to whether or not dues should be charged Dr. Charles D. Potts, St. Louis, on account of illness. The matter was taken under advisement.

The President, Dr. F. P. Knabb, Valley Park, appointed Dr. E. E. Tremain, Maplewood, a member of the program committee in place of Dr. C. C. Irick, Webster Groves.

The application of Dr. Howard P. Durbein was read and referred to the membership committee.

E. E. TREMAIN, M.D., Secretary.

MISSOURI STATE MEDICAL ASSOCIATION 71st ANNUAL MEETING

The 71st Annual Meeting of the Association convenes at Columbia, Tuesday, Wednesday and Thursday, May 15, 16 and 17. The House of Delegates will convene Monday, May 14, and hold its first session when a large part of the business of the Association will be transacted without interfering with the scientific proceedings on the following days. The House of Delegates will hold its meetings in the auditorium of the Missouri Methodist Church. All scientific sessions will also be held in the Missouri Methodist Church. Two open meetings, one on Wednesday night to hear the President's address and a public health meeting on Thursday night, will be held in the Missouri University Auditorium. The registration desk and the exhibits will be located in a room of the Missouri Methodist Church adjoining the auditorium. The scientific program follows:

GENERAL MEETING

Tuesday, May 15, 1928—8:30 A. M. Missouri Methodist Church

Symposium on Skin Disease:

Cancer of the Skin.....M. F. Engman, M.D., St. Louis
Ringworm of the Feet.....R. L. Sutton, M.D., Kansas City
Allergy as the Cause of Dermatoses...Wm. W. Duke, M.D., Kansas City
Manifestations in Syphilis.....W. H. Mook, M.D., St. Louis

Discussion opened by Dr. Joseph Grindon, St. Louis

Radium Treatment of Angioma in Infants....G. V. Stryker, M.D., St. Louis
Worry: Its Cause and Prevention.....D. S. Booth, M.D., St. Louis

Discussion opened by Dr. G. Wilse Robinson, Kansas City

Focal Infection: When and Why Operative Treatment Should Not Be
EmployedV. V. Wood, M.D., St. Louis

Clinical Considerations in the Diagnosis and Treatment of Jaundice and
Ascites.....Carl H. Greene, M.D., Rochester, Minn.

GENERAL MEETING

Tuesday, May 15, 1928—1:30 P. M. Missouri Methodist Church

Symposium on Arthritides:

Infections as a Factor in Arthritis...Russell L. Haden, M.D., Kansas City
Luetic Origin.....C. B. Francisco, M.D., Kansas City
Nutritional Disturbances.....J. E. Welker, M.D., Kansas City
X-Ray.....Sherwood Moore, M.D., St. Louis
Physical Means in the Treatment of Arthritis.....

.....F. H. Ewerhardt, M.D., St. Louis

Discussion opened by Dr. I. H. Lockwood, Kansas City

Progress of Prostatic Surgery.....J. Hoy Sanford, M.D., St. Louis

- The Significance of Hematuria and Pyuria: Illustrated With Lantern Slides.....O. J. Wilhelmi, M.D., St. Louis
Discussion opened by Dr. Clinton K. Smith, Kansas City
The Medical Stomach.....Ralph W. Holbrook, M.D., Kansas City
The Surgical Stomach.....Walter F. Holbrook, M.D., Kansas City

GENERAL MEETING

Tuesday, May 15, 1928—6:00 P. M. Missouri Methodist Church

Missouri University Alumni Reunion
Alumni Dinners
Secretaries' Dinner

GENERAL MEETING

Wednesday, May 16, 1928—8:30 A. M. Missouri Methodist Church

Symposium on Headache:

- Headaches of Ocular Origin.....Lawrence Post, M.D., St. Louis
Nasal Headaches.....Arthur W. Proetz, M.D., St. Louis
Gynecology and Obstetrics.....George C. Mosher, M.D., Kansas City
Neurological Aspects.....B. L. Elliott, M.D., Kansas City
Discussion opened by Dr. H. L. Kerr, Crane
A New Method of Examination of Patients Affected With Intestinal Stasis; With Suggestions Relative to Treatment: A Clinical Talk Illustrated With Lantern Slides....Frank Smithies, M.D., Chicago, Ill.
The Early Diagnosis of Tuberculosis..F.M. Pottenger, M.D., Monrovia, Calif.

GENERAL MEETING

Wednesday, May 16, 1928—1:30 P. M. to 3:30 P. M. Missouri Methodist Church

- Significance of Pain in the Lower Abdomen in Gynecological ConditionsQuitman U. Newell, M.D., St. Louis
Discussion opened by Dr. W. C. Gayler, St. Louis
Practical Points in the Feeding and Care of Infants.....McKim Marriott, M.D., St. Louis
Discussion opened by Dr. Frank C. Neff, Kansas City
Goiter.....A. E. Hertzler, M.D., Kansas City
Discussion opened by Dr. Kerwin W. Kinard, Kansas City
Eye Injuries and Workmen's Compensation Commission.....Emmett P. North, M.D., St. Louis and Vincent L. Jones, M.D., St. Louis
Discussion opened by Dr. Water L. Small, Kansas City
At 3:30 p. m. the General Meeting will adjourn and the House of Delegates will immediately go into session.

GENERAL MEETING

Wednesday, May 16, 1928—7:30 P. M. Missouri University Auditorium

- Medical Education: Annual Address of the President.....Frank G. Nifong, M.D., Columbia.
Address of the President-Elect.....Frank I. Ridge, M.D., Kansas City
Address.....Frank Smithies, M.D., Chicago, Ill.
Address.....F. M. Pottenger, M.D., Monrovia, Calif.

GENERAL MEETING

Thursday, May 17, 1928—8:30 A. M. Missouri Methodist Church

Symposium on Backache:

- Orthopedic Aspects of Backache...Frank D. Dickson, M.D., Kansas City
Relationship of the Genito-Urinary Organs to Backache.....John R. Caulk, M.D., St. Louis
Backache From the Gynecological Standpoint.....H. S. Crossen, M.D., St. Louis
X-Ray Examination of Lumbosacral Region With Reference to Low Back Pain.....P. F. Cole, M.D., Springfield
Discussion opened by Dr. Logan Clendening, Kansas City
Uterine Hemorrhage.....Thomas S. Cullen, M.D., Baltimore, Md.
What Every Doctor Should Know About Cancer.....J. C. Bloodgood, M.D., Baltimore, Md.
Intussusception.....Roland Hill, M.D., St. Louis
A New X-Ray Fracture Device: Uses and Results.....L. G. McCutchen, M.D., St. Louis

GENERAL MEETING

Thursday, May 17, 1928—1:30 P. M. Missouri Methodist Church

- The Latest Physical Effects and Symptomatology of ThrombophlebitisRobert Mueller, M.D., St. Louis
Discussion opened by Dr. H. S. Forgrave, St. Joseph

- The Dangers of the Diabetic.....Elliott P. Joslin, M.D., Boston, Mass.
 Simple Tests in the Study of Kidney Diseases...F. C. Narr, M.D., Kansas City
 Observations on the Nasal Sinus Problem: Illustrated With Lantern
 Slides.....Evan S. Connell, M.D., Kansas City
 Peri-Colic Adhesions as a Factor in Non-Relief of Symptoms Following
 Chronic Appendicitis.....C. H. Shutt, M.D., St. Louis
 Diverticulum of the Cecum, Case Report With Operative Differential
 Diagnosis: Illustrated With Lantern Slides.....
J. R. McVay, M.D., Kansas City
 Discussion opened by Dr. Jabez N. Jackson, Kansas City
 Tumors of the Larynx: Illustrated With Lantern Slides.....
W. G. Patton, M.D., St. Louis
 X-Ray Studies of Chronic Pulmonary Infections.....
R. E. Deweese, M.D., Kansas City

PUBLIC MEETING

Thursday, May 17, 1928—8:00 P. M. Missouri University Auditorium

Dr. M. P. Ravenel, Columbia, presiding

- Address.....M. P. Ravenel, M.D., Columbia
 Address.....Elliott P. Joslin, M.D., Boston, Mass.
 Medicine of the Past and the Future...Jabez N. Jackson, M.D., Kansas City
 Bleeding: A Danger Signal.....Thomas S. Cullen, M.D., Baltimore, Md.
 Cancer as a Community Health Problem.....
J. C. Bloodgood, M.D., Baltimore, Md.
 How to Avoid Contagious Diseases; Illustrated With Lantern Slides
Frank C. Neff, M.D., Kansas City

CLINICS

Friday, May 18, 1928—9:00 A. M.

- Practical Demonstration and Discussion of Cancer Problems.....
J. C. Bloodgood, M.D. and Thomas S. Cullen, M.D., Baltimore, Md.
 Dr. E. G. Blair, Kansas City, and Dr. Ellis Fischel, St. Louis, representing
 the American Association for the Control of Cancer, will discuss the cancer
 clinic.

Friday, May 18, 1928—2:00 P. M.

- Demonstration and Discussion of the Practical Management of the Diab-
 etic.....Elliott P. Joslin, M.D., Boston, Mass.
 Clinical Demonstration of the Cutaneous Tests for Communicable Dis-
 eases.....Frank C. Neff, M.D., Kansas City
 Demonstrations of various tests and reactions will be conducted in the
 laboratory during the clinic session. Members are invited to ask for demon-
 strations of tests.

WOMEN'S AUXILIARY, MISSOURI STATE MEDICAL ASSOCIA- TION—FOURTH ANNUAL MEETING

Officers 1927-1928

- President, Mrs. Wallace M. Bickford, Marshall.
 President-Elect, Mrs. Willard Bartlett, St. Louis.
 1st Vice President, Mrs. A. W. McAlester, Kansas City.
 2nd Vice President, Mrs. W. T. Martin, Albany.
 3rd Vice President, Mrs. T. O. Klinger, Springfield.
 4th Vice President, Mrs. M. P. Ravenel, Columbia.
 Corresponding Secretary, Mrs. L. S. James, Blackburn.
 Recording Secretary, Mrs. M. A. Hanna, Kansas City.
 Treasurer, Mrs. T. J. Draper, Warrensburg.
 Directors: Mrs. A. B. McGlothlan, St. Joseph; Mrs. D. S. Long, Harrison-
 ville; Mrs. George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University
 City; Mrs. C. T. Ryland, Lexington (2 years); Mrs. M. P. Overholser, St.
 Joseph; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico;
 Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves
 (1 year).

PROGRAM

Tuesday, May 15, 1928—9:00 A. M. Missouri State Teachers Association
 Building

EXECUTIVE BOARD MEETING

Tuesday, May 15, 1928—1:00 P. M. Dining Room Missouri Methodist
 Church

LUNCHEON

Group luncheons given by the Women's Auxiliary to the Boone County

Medical Society in honor of the State Executive Board, State Delegates and visiting women.

Registration. Tuesday morning is necessary for assignment to a hostess for luncheon.

Talk on Crippled Children, Illustrated With Lantern Slides.....
.....Frederick A. Jostes, M.D., Columbia

This will be followed by Open House at the Medical Building (McAlester Hall) and visits to the crippled children's ward, in groups of twenty-five women.

Tuesday, May 15, 1928—8:00 P. M. Daniel Boone Tavern, Mezzanine Floor

State officers and directors will be at home to all delegates and visiting ladies.

Wednesday, May 16, 1928—9:00 A. M. Missouri State Teachers Association Building

Address of Welcome.....Mrs. M. P. Ravenel, Columbia
Response.....Mrs. W. M. Bickford, Marshall

"The leader of the Orchestra is always a man who has played second fiddle."
Frau Elbertus.

Reports of Officers.

Report of Credential Committee.

Report of Amendment Committee.

Report of Nominating Committee.

Election of Officers.

Report of Committee on Resolutions.

"Ideals of the Medical Profession and How the Auxiliary May Assist in
Attaining Them".....Frank G. Nifong, M.D.,
President, Missouri State Medical Association, Columbia.

"The Advantages of a County Health Unit to the Profession and the
Laity".....Mazyck P. Ravenel, Columbia

Wednesday, May 16, 1928—12:30 P. M.—Dining Room, Missouri Methodist Church

OPEN LUNCHEON—75 cents

Invocation.....Rev. David Haupt, Calvary Episcopal Church
Two minute reports from organized counties.

Introduction of incoming President, Mrs. Willard Bartlett, St. Louis.

"Relation Between Missouri Tuberculosis Association and Women's
Auxiliary".....

Mr. J.W.Becker, Executive Secretary, Missouri Tuberculosis Association
Subject to be announced.....F. M. Pottenger, M. D., Monrovia, Calif.

4:00 P. M.—Columbia Country Club

Tea. Given by the Boone County Auxiliary to all visiting women.

6:00 P. M.—Columbia Country Club

New Executive Board. Dinner Session, Mrs. Willard Bartlett, St. Louis,
presiding. Tickets \$1.00.

8:00 P. M.—Missouri University Auditorium

Open meeting of the Missouri State Medical Association.

Address of the President, Frank G. Nifong, M.D., Columbia, and other
addresses.

**Thursday, May 17, 1928—3:00 to 5:00 P. M. Boone County Hospital
Nurses Home, Broadway and Williams Streets**

Tea. By Graduate Nurses of Columbia.

8:00 P. M.—Missouri University Auditorium

Open meeting of the Missouri State Medical Association. Addresses by
distinguished guests on public health topics.

The Tuesday luncheons will be a most novel way of entertaining the visiting women as not often do delegates have the pleasure of being guests in the homes of their hostesses at the Annual Meeting. The members of the Women's Auxiliary to the Boone County Medical Society feel that they can best show their pleasure in having the visiting Auxiliary women by entertaining them in their homes, thereby having the privilege of becoming better acquainted with them. They want the women to feel that cordiality and hospitality is the spirit behind the invitation. The "At Home" on Tuesday evening by the State Officers and Directors will be very informal. They feel that it will be a great pleasure to meet the women of the county organizations and that they can gain much by discussing projects and problems with them, and have a better understanding of the county work.

Standing Committees

Organization: Mrs. Willard Bartlett, St. Louis.
 Hygeia: Mrs. A. B. McGlothlan, St. Joseph.
 Education: Mrs. C. H. Suddarth, Excelsior Springs.
 Legislation: Mrs. C. L. Gibson, Kansas City.
 Amendments: Mrs. M. P. Overholser, St. Joseph.
 Nomination: Mrs. A. B. McGlothlan, St. Joseph.
 Crippled Children: Mrs. George H. Hoxie, Kansas City.

Boone County Chairmen for Fourth Annual Meeting

Registration and Information: Mrs. M. P. Ravenel.
 Publicity: Mrs. E. D. Baskett.
 Entertainment: Mrs. Dudley A. Robnett.
 Place of Meeting: Mrs. C. M. Sneed.
 Credentials: Mrs. M. P. Neal.
 Resolutions: Mrs. S. D. Smith.

BOOK REVIEWS

UROGRAPHY. By William F. Braasch, M.D., Head of Section of Urology, Mayo Clinic; Professor of Urology, Graduate School of Medicine, University of Minnesota. Second edition, revised and enlarged. Octavo of 480 pages, illustrated with 759 roentgenograms. Philadelphia and London: W. B. Saunders Company. 1927. Price, cloth, \$13.00 net.

For ten years Braasch's monograph upon pyelography has been the standard American textbook upon this splendid addition to the diagnostics of genito-urinary diseases. During this period the development of this highly specialized method has progressed to include the entire genito-urinary apparatus; therefore the new title of Urography.

Increased experience and routine usage has simplified methods and means of rendering the genito-urinary pathways opaque. The method now enjoys extensive use in hospital and private office practice. Almost every urologist considers himself capable of interpreting a pyelogram, the roentgenologist being relegated to the position of a technician or interfering consultant. It appears to be true, however, that the development of urography has been due to the initial energy of urologists. The radiologist has stood upon the side-lines and cheered, possibly coached the ambitious, urged the diffident, curbed the enthusiast and always applauded the meritorious.

Braasch's monograph is satisfying to the radiologist and urologist. It is voluminously illustrated and not verbose as to text. The chapter upon history is adequate and shows careful analytical consideration of an extensive literature.

The brief chapter upon technic can have no fault other than failure to illustrate or record other types of Bucky diaphragm tables which offer debatable values.

Fortunately, the author has included 100 reproductions of normal renal pelvises. Every urologist who assumes to carry the additional role of radiologist should carefully digest and possibly memorize these variations in pelvic outlines that are within the normal.

Braasch then proceeds to consider urography in the presence of hydronephrosis, renal stone, ureteral stone, tumors, congenital anomaly and tuberculosis. Cystography for bladder pathology and diverticula and ureterography receive complete chapter attention.

Considering that there are 759 roentgenograms reproduced in this volume, the reader of this review will realize the advantages these afford the limited text. The illustrations are excellently done. The book is beautifully printed.

E. H. S.

TEXTBOOK OF BACTERIOLOGY. By William W. Ford, M.D., Professor of Bacteriology, School of Hygiene and Public Health; Lecturer on Hygiene, School of Medicine, Johns Hopkins University. Octavo of 1069 pages with 186 illustrations. Philadelphia and London: W. B. Saunders Company. 1927. Price, cloth, \$8.50 net.

The author has attempted to give complete and accurate descriptions of the microorganisms commonly encountered in medicine, comparative pathology and in public health work. Part I deals with the general problems of bacteriology, such as morphology and the methods of cultivating bacteria. Part II is a systematic discussion of the different bacteria. Part III is concerned with the distribution of bacteria, and Part IV with infection and immunity. Spirochetes are discussed in Part V, and infectious microorganisms of undetermined character in Part VI.

The author states the book is intended principally for the medical student and medical bacteriologist. A large part of the organisms discussed have no relation to clinical medicine. The book impresses the reviewer as too complete for use as a textbook by the average medical student. It is a valuable source of reference. The illustrations are very good.

R. L. H.

THERAPEUTIC MALARIA. By G. De M. Rudolf, M.R.C.S., L.R.C.P., D.P.H., D.P.M., Assistant Medical Officer, Clayburg Mental Hospital, London County Mental Hospitals Service. London: Oxford University Press. American Branch, 35 West 32nd St., New York City. 1927. Price \$3.85.

In a comprehensive and facile but briefly descriptive manner the author starts out with an historical epitome of the beneficial influence of certain infectious processes associated with fever upon disease conditions of the human body. He points out that dementia paralytica, general paralysis of the insane, or progressive paralysis, is the disease that has been most successfully treated in this manner and states that thus far artificial inoculation of the patient with malaria has been the most successful. He gives Wagner-Jauregg credit for suggesting malarial treatment thirty years before he inoculated his first paralytic with this disease. After giving not only his own views upon the indications for malarial treatment of general paretics but including the views of others, he takes up in order the value of malarial treatment and changes in the reactions and physical condition of the patient during treatment as

well as the changes following such treatment. He discusses hypotheses of others as well as his own as to the mode whereby the beneficial effects of the treatment are obtained.

After stating the various means of inoculation the author gives the technic of administration of the inoculating material and suggests methods whereby the malarial blood for use in inoculation may be preserved and transported considerable distances. The dosage given by himself and others is stated and the conclusion drawn that small doses are as efficacious as the more massive ones.

In discussing the incubation period the author gives the experience of various observers along with those of his own, all of which tends to indicate its variability. He points out the fact that the incubation period is not shortened through the administration of large doses of the inoculation material but on the contrary it may be lengthened. The onset of the malarial paroxysms is described with the various forms of febrile elevation illustrated fully with temperature charts. Conditions in the blood itself are given consideration, including changes in the erythrocytes, leucocytes, hemoglobin, and other clinical manifestations during the pyrexia. Biochemical changes as they pertain both to the urine and blood are described in some detail.

In considering the number of paroxysms of pyrexia that should be permitted before the elevated temperature is terminated therapeutically the author gives the experience of several observers who are not in accord as to the number that should occur. There seems to be much greater correlation of opinion in regard to the value of the pyrexia which is in proportion to its height rather than to the number of such pyretic repetitions.

Brief space is given to consideration of accessory treatment as adjuvants to the direct malarial inoculation which in the opinion of observers quoted embraces rather diametrically opposed views. The author is not encouraged to expect more favorable results from the use of arsenical or mercurial preparations as synergistic remedies.

Careful consideration in a brief way is given to dangers and death from the treatment and these are divided into three groups: (1) Those occurring between the inoculation and the first advent of fever; (2) Those occurring during the fever; (3) Those occurring after the fever. By no means does the author consider it an entirely benign procedure to be given as a routine with impunity to all patients suffering from paresis. He believes one should select the patients for treatment in accordance with (1), the type of manifestation of the disease, and (2) dependent upon the physical condition of the patient and advancement of the disease.

The author closes his book after giving a description of the mosquito which is host to the plasmodium. But he does not omit an extensive bibliography most of which has been verified by him and which will serve one who chooses to read more in detail on the subject. Another thing emphasized by him is that we know little of the value of therapeutic malaria as a rational treatment in general paresis and he cautions that one must not look to it as the established future treatment of this disease.

The book is well written in easily read language and should be of interest to those participating in or contemplating the treatment of general paresis with therapeutic malaria. W. N.

THE ESSENTIALS OF OTOTOLOGY. By George Birmingham McAuliffe, A.B., M.D., F.A.C.S., Assistant Professor of Otology, Cornell Medical College, etc. Oxford University Press. American Branch, 35 West 32nd Street, New York City, N. Y. Price \$4.00.

One is impressed with the thorough and painstaking effort manifested in this work on otology. It will be a valuable aid, and not only the novice in otology but the seasoned specialist can enjoy the concise and practical method employed in imparting this valuable knowledge.

This volume is not written as a short cut to otology but as an exemplification of the cardinal principles and practice of this specialty in a practical manner. C. F. P.

DISEASES OF THE SKIN AND SYPHILIS. Designed for the Use of Students and Practitioners. By Albert Strickler, M.D., Professor of Dermatology and Syphilology, Temple University Department of Medicine, etc. With 218 illustrations, including 6 full page plates, some in colors. Philadelphia. F. A. Davis Company, Publishers. 1927. Price \$8.00.

In this treatise on dermatology and syphilis the essential features of skin diseases are presented in concise and easily accessible form. The book should prove valuable as a ready reference work on this subject or as a student's textbook. The tabular form of presenting differential diagnosis should prove an aid to quick consideration of a number of the more important diseases. Photographic illustrations are most generously used and are of excellent quality. R. L. T.

BEDSIDE DIAGNOSIS. By American Authors. Edited by George Blumer, M.D., Clinical Professor of Medicine, Yale University, School of Medicine; Attending Physician to the New Haven Hospital. Three Octavo volumes, totalling 2820 pages, containing 890 illustrations. Philadelphia and London: W. B. Saunders Company. 1928. Price cloth, \$30.00 a set. Separate desk index volume free.

To those trained in an age of greater diagnostic simplicity, it would seem that the multiplication of laboratory and technical methods has led to a tendency to over-emphasize the importance of the information obtained by such procedures. When we look back and remark, as we cannot fail to do, the extraordinary achievements of our professional forebears, it is difficult to avoid the conclusion that the simple methods which they employed are insufficiently utilized at the present day. The fault does not lie in the use of laboratory and technical aids, for no sane individual could doubt their importance, but in the undue emphasis frequently placed upon the value of the resulting information. It is thus of vital importance that the use of the simpler methods of observation, especially those that are applicable at any bedside, should be stressed.

It is this need that Blumer's *Bedside Diagnosis* strives to fill. The collaborators have been chosen from among our most eminent diagnosticians, nearly all of them however living east of the Alleghenies. A chapter is devoted to each important disease and, after the usual preliminary remarks, there is a discussion first of the general and then of the differential diagnosis. It is inevitable that the chapters, being by such various hands, should be of unequal value, but the average is very high. A. E. T.

NUTRITION AND DIET IN HEALTH AND DISEASE. By James S. McLester, M.D., Professor of Medicine, Graduate School of Medicine, University of Alabama, Birmingham, Ala. Octavo of 783 pages. Philadelphia and London: W. B. Saunders Company. 1927. Cloth, \$8.00 net.

This volume on nutrition not only deals with the physiology and consideration of every type of food, but outlines a proper diet for every pathological condition. The special chapter on infant feeding by Dr. McKim Marriott and the chapter on diets for surgical patients by Dr. Barney Brooks make the book complete for the physician whose interests are general as well as specific. The book is replete with menus for all types of normal and pathological conditions and in addition contains comprehensive tables and charts of a general nature. The reviewer highly recommends this splendid reference work.

A. C. C.

A MANUAL OF GYNECOLOGY. By John Osborn Polak, M.Sc., M.D., F.A.C.S., Professor of Obstetrics and Gynecology, Long Island College Hospital, etc. Third edition, thoroughly revised. Illustrated with 145 engravings and 12 colored plates. Philadelphia: Lea & Febiger. 1927. Price \$5.00.

This new edition has been revised by the author and many plates, diagrams and illustrations added. No changes have been made in the general structure of the book except that another chapter on "Glands of Internal Secretion in Gynecology," has been added. This chapter is too short for a subject so important, yet it upholds his conception of what a manual of gynecology ought to be—a concise and definite exposition on diseases peculiar to women—he could not give it more space.

The subject matter is divided into nineteen chapters. The first two cover physiology and diagnosis, respectively. The succeeding chapters deal with the anomalies, inflammatory diseases, neoplasms and obstetrical injuries of the generative organs and the adjacent organs, such as the bladder, rectum and pelvic colon. In nearly every case the disease is described under four general subdivisions, namely, pathology, symptoms, diagnosis and treatment. The facts are set forth in more or less tabulated form which makes the book especially valuable to the undergraduate student and not less so to the general practitioner. Directions for treatment are concise, brief and specific. The remedial measures are those which the author in his experience has found practical, effective and easily administered by the general practitioner.

This volume cannot help but find place as a daily desk reference for the general practitioner and as a practical text for the use of the undergraduate medical student.

P. A. G.

A TEXTBOOK OF PSYCHIATRY. By D. K. Henderson, M.D. (Edin.), F.R.F.P.S. (Glas.) Physician-Superintendent, The Glasgow Royal Mental Hospital, etc. and R. D. Gillespie, M.D. (Glas.), D.P.M. (Lond.). Physician for Psychological Medicine, Guy's Hospital, London, etc. London: Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1927. Price \$5.50.

This book comprises what a well trained psychiatrist would find to be the consensus of sound

opinion in England and America could he have frank talks with the leaders in the field.

The impress of Adolf Meyer is apparent and to our mind recommends the book. Trends, attitudes and reaction types, instead of hard and fast boundaries, give much useful elasticity to description.

After outlining with much pains the importance of family history the book is a bit disappointing in the clinical cases cited where only the conventional expressions, "nervous wreck," "nervous breakdown," etc., are used. To us it would seem well if one complete detailed record were furnished bringing out all the book advocates in history taking and general examination.

In the discussion of etiology the attitude taken toward the influence of focal infections and endocrine dyscrasias seems to us eminently sound and sane.

Psychiatry is coming into its own not only in medical circles but to a constantly increasing extent in legal and sociological fields. Many subjects are touched upon by the talented authors of this book which found no place in the textbooks of a few years ago. Every paragraph is worth reading for each shows the careful thought and balanced judgment of experienced men. In moderate compass and in excellent descriptive form one may here read the essential facts of psychiatry as they are known at this day.

M. A. B.

MODERN MEDICINE. Edited by Sir William Osler, Bart., M.D., F.R.S., Late Regius Professor of Medicine in Oxford University, England, etc. Third edition, thoroughly revised. Re-edited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia, Fellow of the Royal College of Physicians, London, etc. Assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Volume V. Illustrated. Lea & Febiger, Philadelphia. 1927. Price \$9.00.

This is the most satisfactory volume of the new edition of the Osler-McCrae system the reviewer has seen.

It is interesting to note that Hans Lissner has joined George Dock in revising the "Diseases of the Ductless Glands." Rowntree has taken over the "Introduction to Kidney Diseases," while Osler's work on Raynaud's disease, trophic disorders, etc., has been revised by Archibald Malloch.

In general the same conservative stand has been taken as that observed in the other volumes.

G. H. H.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month). Volume 7, Number 5, (Pacific Coast Surgical Association Number—October, 1927). 266 pages with 132 illustrations. Per Clinic year (February, 1927, to December, 1927). Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The articles in this number were contributed by Fellows of the Pacific Coast Surgical Association. This association is composed of surgeons living in California, Oregon, Washington and British Columbia. This year being the centennial of the birth of Lord Lister, the founder of modern surgery, the

leading article, contributed by Dr. Edgar Lorrington Gilcreest, of the University of California Hospital, is a tribute to Lord Lister in appreciation of the magnitude of his discovery and the nobility of his life. Dr. Robert C. Coffey, Portland, Oregon, discusses cancer of the pelvic colon and rectum in the opening chapter of the technical topics. An interesting case of large ovarian cyst in a fourteen year old girl who had never menstruated is reported by Drs. Alanson Weeks and G. D. Delprat, of the Children's Hospital, San Francisco. The book contains 265 pages.

CLINICAL DIAGNOSIS BY LABORATORY METHODS. A Working Manual of Clinical Pathology. By James Campbell Todd, Ph.B., M.D., Professor of Clinical Pathology, University of Colorado, and Arthur H. Sanford, M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratory, Mayo Clinic. Sixth Edition, Revised and Reset. Octavo of 748 pages with 346 illustrations 29 in colors. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$6.00 net.

Although listed as a sixth edition this is to all intents and purposes a new book. As the authors state, the increased size and change in form has been brought about without sacrifice of simplicity and conciseness which was the original aim of the book. While "Todd" has always been a favorite with the laboratory worker we believe the collaboration of Dr. Sanford of the Mayo Clinic will assure a long continued popularity for this work.

The subject matter includes the usual chapters on clinical pathology, serodiagnostic methods, bacteriology, vaccines, and a large amount of miscellaneous information of value to the laboratory worker. The Kahn test and a number of newer tests in the line of blood chemistry and liver function have been added to this edition. The illustrations are excellent and aim to be of real value in conveying information that cannot be given in any other way. R. L. T.

POLIOMYELITIS. With Especial Reference to the Treatment. By W. Russell MacAusland, M.D., Surgeon-In-Chief, Orthopedic Department, Carney Hospital, Boston, Massachusetts. Illustrated with 173 engravings. Philadelphia: Lea & Febiger. 1927. Price \$5.50.

This volume is a rather complete discussion of poliomyelitis and its problems. Beginning with a consideration of the history and epidemiology of the disease he takes up the pathology and symptomatology and gives attention to the recognition of the disease in the pre-paralytic stage. The author impresses upon us the necessity of making the diagnosis at this time whenever possible if great disability is to be prevented. The laboratory diagnosis and prognosis are discussed and then the rest of the book, considerably over half of it, is devoted to the treatment.

The author discusses not only treatment in the acute stage but follows it into the chronic stage and beyond, taking up physical measures such as heat, massage, electricity, etc., and all sorts of orthopedic and surgical procedures designed to restore function and lessen disability.

The book shows evidence of a careful study of the literature, and there are numerous references to the work of others so that the reader may easily look up

any phase of the subject for himself. It should be of great value to all who are in any way interested in the subject of poliomyelitis. B. L. E.

PHYSICAL DIAGNOSIS. By Charles Phillips Emerson, A.B., M.D., Professor of Medicine, Indiana University School of Medicine; Author of *Clinical Diagnosis*. 324 illustrations. Philadelphia and London: J. B. Lippincott Company. Price \$7.00.

In his preface Dr. Emerson says he is trying to make a book which would emphasize the use of the well established methods of physical diagnosis.

A striking thing about this book is its abundance of illustrations of skin lesions and the thorough description of what is to be obtained by inspection of the patient. In fact, the book is almost a small manual on skin diseases. This your reviewer heartily commends.

The book is intriguing in that it inspires the reader with a desire to know more than the text includes. The author stops short with naming the condition causing the particular phenomenon observed and leaves to the reader the necessity of hunting up in some other volume the pathology and pathogenesis of the conditions described.

This makes the book one to be consulted in a time of hurry and haste. We would not decry this type of book, for it should be an adjunct to every busy practitioner's office. We have to have the Sahli and similar books of scientific erudition for careful reading at home but during the day we need at hand some book for quick reference. Among them Emerson's physical diagnosis ranks high.

We noticed a curious misprint in the index, pages 543 and 544, where some references on the mediastinum are taken out and put on another page.

We commend the use of fresh and original illustrations from the department of illustrations at the University of Indiana. It is refreshing to get away from the time worn charts and illustrations.

G. H. H.

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D., Professor of Medicine in Harvard University, etc. Ninth edition. Revised and enlarged, with six plates and 279 figures in the text. New York. William Wood and Company. 1927. Price \$5.00.

The author tells us in his preface that the principal change in this edition is in the account of the cardiac murmurs and their interpretation. These chapters as they now stand are of especial value to practitioners, for it requires a little bit of personal experience to be able to interpret them.

Your reviewer is rather disappointed in the illustrations, which apparently have been brought over from previous editions and not renewed properly. The index also needs revision. But the text is certainly up-to-date and worth reading. The author's frankness is well illustrated in his discussion of what he calls "barrel chest" and emphysema. Here again the account is better suited for a man in actual practice than for a student. We might suggest that in the next edition a greater discussion of electrocardiograms be given. Similarly the discussion of blood pressure and illustrations of the instruments might be brought farther down to date.

But when all this is considered nevertheless we believe that the philosophy as well as the acute powers of observation of Dr. Cabot have made this book well worth repeated reading by the general practitioner. G. H. H.

CLINICAL CASE-TAKING. Supplement to Methods in Medicine. By George R. Herrmann, M.D., Ph.D., Assistant Professor of Medicine, Tulane University, New Orleans. St. Louis: C. V. Mosby Company. 1927. Price \$1.50.

As a guide for the intern or hospital resident this small book may prove of value provided it is followed in toto. It is, however, of little use to the busy practitioner who must at times consult his own requirements rather than the multitudinous details which the book contains, valuable though they may be.

T. G. H.

THE TONGUE AND ITS DISEASE. By Duncan C. L. Fitzwilliams, C. M. G., M.D., Ch.M., F.R.C.S. Edin. and Eng., Surgeon and Lecturer on Surgery to St. Mary's Hospital, etc. Oxford University Press. American Branch, 35 West 32nd Street, New York City, N. Y. 1927. Price \$11.00.

This monograph is a sequel to the Butlin and Spencer "Diseases of the Tongue" which has long been out of print. It is a complete resume of our knowledge of diseases of the tongue and contains an excellent bibliography. The chapters on the surgical treatment of leukoplakia and thyroglossal tumors and cysts at the base of the tongue are especially interesting.

This is an excellent volume and worthy of a place in every physician's library.

P. F. S.

DISEASES OF THE MOUTH. By Sterling V. Mead, D.D.S., Professor of Oral Surgery and Diseases of the Mouth, Georgetown Dental School, etc. With 274 original illustrations in the text and 29 full page color plates. St. Louis. The C. V. Mosby Company. 1927. Price \$10.00.

The author has assembled much of importance to the stomatologist which has been omitted in books on oral surgery. There are many chapters dealing with methods of examination of the oral cavity and diagnosis of oral conditions which are of great value not only to the dentist but to the physician as well. Following each chapter is an extensive bibliography of books and articles dealing with diseases of the oral cavity. In fact, the major part of the book is made up of data obtained from other authorities although he quotes extensively from his personal experiences. The book is well illustrated and might be of value as a textbook in courses on stomatology.

V. L.

NORMAL MIDWIFERY FOR MIDWIVES AND NURSES. By G. W. Theobald, B.A., M.D., B.Chir. (Camb.), F.R.C.S. (Ed.), M.R.C.P. (Lond.), L.M. (Rot.) Professor of Obstetrics and Gynecology in the Chulalongkorn University, Bangkok, etc. London: Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1927. Price \$3.15.

This is a very commendable handbook which will appeal not only to nurses but also to beginners in the practice of medicine who would be benefited by a brief résumé of the British art of teaching these important subjects.

The author acknowledges his obligation to those outstanding masters of Rotunda Hospital, Dr. Gibbon Fitz-Gibbon, Sir William Smyly and Professor Hastings Tweedy, three of the greatest living authorities on obstetrics in the English language.

The subject is an evolution from the beginning of the pupil's training and carries through anatomy, physiology, pregnancy and its management, so far

as necessary in a delightful tone not too technical to be absorbed by any intelligent novice.

A refreshing innovation in bookmaking is the quotation of a Biblical text with the beginning of each chapter. The first, on the consideration of anatomy and physiology, is preceded by "I will praise thee; for I am fearfully and wonderfully made" (Psalm cxxxix, 14). On normal labour, "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children" (Genesis iii, 16). On the second stage of labour, "A woman when she is in travail hath sorrow, because her hour is come; but as soon as she is delivered of the child, she remembereth no more the anguish, for joy that a man is born into the world" (St. John xvi 21).

Many aphorisms are pertinent and striking. For instance, "While mothers make their own skirts shorter and their dresses lower, they dress each of their babies in sufficient clothes for three." . . . "Never assume that a baby is dead until you have proved that it is not alive." . . . "A baby cannot kick in the womb if its heart is not beating." . . . "A good maternity nurse is known by the amount of hot and cold water and swabs she prepares." . . . "A bad maternity nurse is known by the number of difficult cases she insists on describing to the patient and her relatives." . . . "Any bleeding during pregnancy is a red warning of danger." . . . "A pendulous belly is like a Ford car, not much to look it, but may cause a lot of trouble in starting." . . . "A well baby never cries without provocation."

This is an impressive style of teaching and makes the little book enjoyable as well as memorable. Dr. Theobald has enriched the literature of nursing with his volume.

G. C. M.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 8, Number 1. (Lahey Clinic Number, February, 1928.) 210 pages with 74 illustrations. Per clinic year (February, 1928, to December, 1928). London and Philadelphia: W. B. Saunders Company. Paper, \$12.00; cloth, \$16.00 net.

This number comprises cases treated at the Frank H. Lahey Clinic in Boston by the clinic staff. Dr. Sara M. Jordan has a well illustrated article on "Diagnosis of Early Malignancy of the Colon" and contributes some comments on "Cholecystography." Dr. Lahey discusses "Post-Thyroidectomy Complications," "Incision for Thyroidectomy," and "Excision of Stoma for Gastrojejunal Ulcer." Other members of the clinic staff also contribute articles.

CLINICAL LABORATORY PROCEDURES. By George L. Rohdenburg, M.D., Director of Laboratories, Lenox Hill Hospital, etc. New York: The Macmillan Company. 1927. Price \$3.25.

For any one wishing a concise manual of laboratory technique that does not perplex with a dozen different methods for doing the same test, we recommend this book. This text follows the usual content of laboratory manuals, but in addition gives tests for drugs and poisons that might be found in the urine. It therefore can be accepted as a valuable help to "hooch" examination, and more and more the demand is growing for such books in all first-class laboratories. Personally the reviewer objects to blank pages in a book, and half the pages in this book are blank. Notes can always be written on the margin of a book. We are for wider rather than thicker books.

R. L. T.

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ORIGINAL ARTICLES

RECONSTRUCTIVE SURGERY*

THE HODGEN LECTURE

DEAN LEWIS, M.D.

BALTIMORE

It has been said of John Thompson Hodgen that he was quick and clear in apprehension; terse and forcible in expression; that he was a powerful debater whom no sophistry confused; one who never lost sight of controlling principles or confounded ideas with facts. He possessed a decided mechanical genius; his inventions most worthy of note are a wire splint for fracture of the thigh; suspension cord and pulleys, permitting flexion, extension and rotation in fractures of the thigh. He evidently dealt with principles for as far as I can determine he was one of the first to insist upon the principle that in the treatment of fractures the long fragment which can be controlled must be dressed in line with the fragment which cannot be controlled—a principle often neglected, perhaps not comprehended, in some of the mechanical devices suggested from time to time designed to render reasoning power needless in the treatment of fractures.

I felt it a great honor to be asked to give this lecture founded in honor of a great surgeon, who was evidently interested in reconstructive surgery, the demands of which have become greater because we are living in a mechanical age. I thought it might be well to review the progress that has been made in reconstructive surgery during the almost fifty years since Hodgen passed away. Many fallacious observations have crept into recon-

structive surgery, and the bizarre and false not infrequently survive much longer than they deserve. The biologist, the experimental zoologist, the physiologist and the surgeon have all been active in placing surgery upon a sound basis. The method of tissue repair often determines the procedures which should be followed, and for that reason it may be necessary to discuss at some length the repair of different tissues. Transplantation of skin, tendon, bone and the repair of nerves will be considered, for they are the tissues most frequently affected in reconstructive surgery.

SKIN GRAFTING

Skin grafting is the oldest procedure and since the principle was introduced many ideas have found their way into surgical literature which are founded upon poor observation. Naturally it was desirable that the grafts be not taken from the individual grafted and some of the earliest observations were made upon the effect of transferring grafts from one individual to another. Karg made some of these early attempts and transplanted grafts from the white upon the granulating ulcer of a negro and negro skin upon the white. According to him these grafts healed, and the white grafts transferred to the negro became black and the black grafts lost their pigment. He did not believe that these grafts were substituted because the ulcer was too deep to permit of islands of epithelium being left. Reverdin and Johnson Smith also transplanted white skin upon the negro, but found that these did not become pigmented. It is needless to review the literature which has accumulated, for there is a case reported in which frog skin was used with success.

The report of cases of complete healing following the use of homoplastic or hetero-

*Read before a joint meeting of the St. Louis Surgical Society, the Medical Fund Society, and the St. Louis Medical Society, at St. Louis, March 20, 1928.

plastic grafts appeared in the literature frequently and not until 1911, when interest in free transplantation of different tissues was revived, was suspicion aroused as to the fate of different types of transplants; although it had been noted from time to time that grafts which had apparently healed disappeared, but that epithelization of the surface occurred.

One of the most convincing observations is that made by Perthes. He treated a girl, aged 19, whose scalp had been avulsed. Ten weeks after the accident when healthy granulations had developed Reverdin grafts were applied. Nine grafts from the patient were applied on the left side of the granulating surface and nine which were taken from her sister were applied on the right side. These grafts were applied under like conditions. Ten days later all the grafts appeared the same and seemed to be firmly attached to the underlying tissue. Eleven more grafts were then taken from the sister and applied to the right side of the head. Sixteen days after the first grafts were applied a distinct difference was noted between them. The autografts had a distinct border of new epithelium; while the homografts were evidently encroached upon by granulation tissue. Four weeks after the grafts were applied the contrast was still more striking. The grafts from the patient had enlarged on an average from 5 to 20 mm. by the formation of new epithelium; while those taken from the sister had disappeared. This is one of the earliest carefully observed experiments on the fate of homografts. Histological examinations which were made later indicate that at the end of the second week homografts appear normal and seem to have coalesced with the normal skin. They appear to have healed in position. In spite of the fact that they seem to have healed, marked degenerative changes are observed histologically as early as the ninth day in all parts of a homograft. The epidermal layers are considerably thinner than in normal skin and the nuclei show marked shrinkage. On the 16th day the nuclei cannot be stained and hair follicles and sweat glands disappear. Changes in the connective tissue are no less striking than those in the epithelium. Twenty-eight days after homografts are applied the epithelium is lost, the cutis infiltrated and in the surrounding granulation tissue, in the neighborhood of the grafts, many giant cells are seen. These are foreign body giant cells.

These two carefully controlled experiments confirm what is so often observed clinically. Homografts seem to heal, but about the middle or end of the third week they become detached and are lost, separation being accompanied by the development of a purulent discharge. The granulating surface may, however, become covered by epithelium developing from some islands which have not been destroyed or from the epithelium of sweat and sebaceous glands and hair follicles.

Cases are observed from time to time which indicate that homografts may produce a distinct reaction upon the recipient. Holman reported such a case from the Hopkins Clinic.

REPORT OF CASE

The patient, G. T., aged 5, was admitted to the Johns Hopkins Surgical Clinic on July 27, 1921, with an extensive laceration of the left thigh and leg caused by a motor truck. The patient was brought to the hospital immediately and an extensive debridement was performed 24 hours later. The skin from Poupart's ligament to the ankle had been stripped loose. The underlying muscles had been considerably injured and the knee and ankle joints opened. When the wounds were granulating, skin grafting was performed, August 18. Both mother and child belonged to Group II and there was no agglutination when the bloods were matched. One hundred and fifty-one deep pinch grafts were removed from the mother's thigh and applied to the inner and anterior granulating surface of the leg. Circulation in the grafts apparently developed, this being indicated by the dark, discolored areas in the center of the small pinch grafts within 48 to 72 hours after their application.

On August 23 it is noted that the grafts had begun to spread at the periphery. Two days later 168 additional pinch grafts were removed from the mother's thigh and applied to the remainder of the denuded surface of the child's leg. Within three days all the grafts showed signs of taking and the entire wound was in excellent condition. By September 17 the leg had become almost completely epithelialized by the spreading of the grafts and only a few small granulating areas remained uncovered. About two weeks following the application of the second grafts a widespread, exfoliative dermatitis had developed over the entire body and the skin over the scalp, face, arms, trunk and legs was desquamating. Desquamation also involved the grafted area, and on September 29 small blisters were noted on this area, fresh granulating areas which had formerly been covered with epithelium appearing.

A consultation was held with the dermatologists and a diagnosis of seborrheic eczema or possibly psoriasis was made. Desquamation proceeded at an astonishing rate and within 2 months after the initial epithelialization of the leg all the new epithelium had melted away through a process of repeated desquamation. In the meantime the skin over the rest of the body was in a deplorable state. Weeping fissures and bleeding cracks had appeared in the skin of the face and arms, causing considerable discomfort and an unpleasant appearance.

About this time it occurred to Holman that the general reaction was probably a phenomenon of

anaphylaxis or protein sensitization. The child continued to have a slight rise of evening temperature with high pulse, and slightly blood-streaked stools indicated possible desquamation of the mucous membrane of the intestine. As the original pinch grafts obtained from the mother were still present, it was decided that they should be removed as they were probably the cause of the trouble. The original grafts deeply imbedded in granulation tissue were removed at the end of 3½ months. Within 10 days there was a tremendous improvement in the general condition of the patient and the exfoliative dermatitis disappeared.

In less than 4 weeks after the removal of the foreign grafts the child's skin had entirely cleared, so that a third skin grafting was undertaken, autografts being taken from the patient's thigh. No difficulty was experienced and the granulating surface soon became covered with epithelium.

This observation has been cited to show how little is known as to the relation existing between donor and recipient in these cases. It seems to have been established by clinical and experimental evidence that the only skin grafts which can be relied upon are those taken from the same individual and that any other procedure is so uncertain as to be unwarranted, even when blood matching is resorted to.

REPAIR OF TENDONS

Roux several years ago emphasized the necessity of the early assumption of function in the repair and growth of tissues and organs. This principle cannot be better illustrated than in the repair of tendons. The results of tendon suture, as indicated by the earlier statistics, were not good. The poor results were due to the frequency of infection and to long immobilization. It is surprising how views differ as to tendon repair. Piragoff at one time described two types of tendon repair depending upon whether a blood clot formed between the divided ends or not. He stated that if a blood clot did not form scar formation was incomplete; that a blood clot stimulated growth and provided the culture medium for developing cells. Adams, on the other hand, thought that the blood clot interfered with tendon repair. The role of the blood clot in repair of tissue has been the subject of discussion for years and it has been gradually demonstrated that the blood clot, which is dead tissue, interferes seriously with tissue repair and that even in fractures where the blood clot is still supposed to be an important factor in repair it may likewise be the cause of non-union. An important observation upon tendon repair was made by Bizzozero, who believed that the tissue which took most active part

in tendon repair was the connective tissue surrounding the ends of the tendon, and that it took a more active part than the sheath or the tendon cells themselves. I suppose that Bizzozero referred to the peritendineum externum. The relation of the synovial sheath to tendon repair will be discussed later when speaking of late separation of tendons following suture.

Some of the conflicting views may be reconciled. The blood clot which forms is first replaced by tissue formed by the peritendineum externum and internum and connection between the tendon ends established. From the 6th day on regeneration of tendon occurs; at first in the deeper ventral part which as a result of the intact sheath provides better nutrition. This tissue is finally replaced by regeneration of the tissue proper. Seggel as a result of reconstruction by silk has come to the conclusion that tendon has decided power of regeneration; but this actual tendon repair is secondary and this tissue which fills the defect is finally replaced by tendon fibrillae developed from the tendon fibrils proper.

In this relation may be mentioned the work of Roux and Barfurth who, working with the mechanics of development, came to the conclusion that the establishment of function was important not only in determining form but in the development of the specific structure of the tissue or organ concerned.

The importance of tension and early assumption of function is best illustrated in the case of free tendon transplants into subcutaneous fat. Such transplants removed from two to three weeks after being placed in subcutaneous fat are rolled up upon themselves, softened and infiltrated with leucocytes. They have lost their shiny appearance and are quite different from free tendon transplants which have been inserted into a defect and have assumed early function.

This early assumption of function seems to me to be one of the most important things in tendon suture. Long immobilization favors the development of adhesions and interferes with the realignment of the tissue forming between the ends of the tendon which eventually become converted into tendon fibrillae. A tendon suture should be so applied that it does not strangulate, gives a good hold on the tendon, permitting of early assumption of function and at the same time approximates the ends so that repair takes place with clot formation. The

early assumption of function is one of the most important principles in the reformation of tendon.

It is interesting to note in this connection that late separation of the suture line has been noted in tendons with a synovial sheath. It has been suggested that the synovia contains a hormone which interferes with tendon repair. There is no reason for such an assumption. It is more probable that the synovial sheath does not take an active part in tendon repair and that the peritendineum which is so necessary to repair of tendon is so reduced in amount that repair is delayed. The possibility of late separation of a tendon with a synovial sheath should always be remembered. Separation may occur as late as the fourth week.

Roux and Barfurth's law relating to function in the repair and reconstruction of a tendon has no better illustration than in the repair of tendon. The more specialized the structure and the higher the function the less the possibility of survival in transplantation and the more limited the use.

BONE TRANSPLANTATION

In 1891 Ollier came to the following conclusions concerning bone transplantation: (1) There is a fundamental difference between living bone with periosteum of the same species and any other kind of bone. (2) Only the first increases in thickness after healing with a rapidly developing fibrovascular attachment between the graft and the host. Only such bone has the possibility of healing and retaining vitality. In this the periosteum plays an important role. The periosteum which remains viable and productive is the most important factor in bone transplantation. Other bone remains unchanged; surrounding tissue produces a connective tissue capsule, or is absorbed, absorption often being hastened by the penetration of blood vessels. When contacted with living bone such a transplant may be substituted. Adolf Schmitt at this time regarded the autoplasmic graft as the only certain procedure.

These definite findings as to the fate of transplanted bone did not receive confirmation by the histological work done by Barth or some clinical cases observed by McEwen. From histological study Barth drew the conclusion that a bone transplant died and that no living bone cells were found in a transplant, substitution of the transplant occurring from the bone with which the

transplant was contacted. This work was almost immediately accepted and as a consequence boiled homo and heterotransplants with and without periosteum, ivory, and many other tissues were tried in the replacement of bone which had been lost and in the treatment of ununited fractures. Definite clinical experience indicated that a transplant was viable and viable from the time of insertion. Cases were observed in which sequestrum and involucrum formation occurred in mildly infected fractures and still other cases were noted in which union occurred after fracture of the transplant. Twice I have used transplants which have slipped after being inserted in a fracture. In one case the transplant was exposed fourteen months after it had been inserted. When exposed the second time the transplant had become firmly united with the lower fragment. The upper end was vivified and inserted into the marrow cavity of the upper fragment and fixed with a small plate. Union occurred within three months. In another case the transplant fractured, but when the second operation was performed the lower part of the transplant had become united with the fragment and was used to correct the nonunion.

This use of a vascularized transplant has been suggested by Brooks. The changes in a transplant are undoubtedly mostly due to its physical properties. The bone cell is so encased that it receives no nourishment in a transplant and for that reason only the superficial bone cells can receive nourishment. The necessity of transplanting periosteum is indicated by the histological studies which have been made. The ideal bone graft should contain only enough cortical bone to maintain the form of the graft, and the periosteum of the graft should be approximated with the periosteum of the host in order to insure early vascularization. The massive graft which has been used so much gives fixation but does not aid in repair as much as the thinner osteoperiosteal grafts. Injection of defibrinated blood promotes the union of fractures, and at one time was used extensively; but it is hardly necessary to say here that a blood clot interferes seriously with any type of bone graft and that accurate approximation of the bony surfaces and the periosteum adds greatly to the chances of permanent union.

Homotransplants apparently have been used with success, but in bone surgery the autotransplant provides the ideal trans-

plant and the one that gives the greatest percentage of good results. The role of the periosteum can no longer be doubted. The definition as to what the periosteum is, is of academic interest—its value in a transplant is no longer a question for discussion.

NERVE SURGERY

I would like to consider for a moment the subject of peripheral nerve surgery for, although it has been discussed freely during the past few years, the results are still not what they should be. The question naturally arises, what are the reasons? Before answering this question two things should be discussed. The first deals with the repair of peripheral nerves; the second with anatomy.

Years ago anatomists and physiologists were absorbed with the possibility of the regeneration of peripheral nerves. The work of Bethe, who seemed to have demonstrated the possibility of peripheral regeneration, aroused enthusiasm and discussion. Apparently some of the results observed by Bethe were due to the neurotization of the distal segment by adjacent nerves. It can be said now without much fear of contradiction that peripheral nerve repair depends upon two factors—growth of the axis cylinder, and the transformation of the neurilemmal sheaths of the distal segment into bands of protoplasm which conduct the developing neurofibrillae to the motor end-plates or end-organs. Anatomically it has been demonstrated that the nerve fibers are grouped in certain bundles in peripheral nerves which supply certain muscles. This arrangement has been spoken of as the nerve pattern or internal topography. It makes little difference as far as the surgeon is concerned whether he accepts the view of Langley and Hashimoto, who have described an internal plexus in peripheral nerves, or that of Stoffel. The indication in peripheral nerve surgery is to reconstruct as nearly as possible the nerve pattern; in other words, to follow much the same procedure as in any other type of surgery where tissue is not removed and to leave the parts in as nearly normal position as possible. That side tracking or switching does occur is indicated clinically by cases which have been observed in which, after return of function following suture of the musculospiral, the patient, when attempting to extend the fingers or wrist, flexes the forearm. Shunting of developing nerve fibers has occurred in such

a case, for the fibers which supply the extensor communis digitorum have grown down into the supinator longus. Reeducation may correct such shunting, but if a motor funiculus of the proximal segment had been contacted with a sensory funiculus of the distal segment the function would have been greatly compromised by the shunting of motor fibers into the skin, and vice versa.

Scar tissue interferes more than anything else with peripheral nerve surgery and there is always a tendency to leave some scar in order to make an end-to-end suture. When a neuroma is resected it is quite the common thing to find in the end of the proximal segment matted, edematous funiculi. The funiculi in the proximal end of the distal segment, on the other hand, appear normal after resection has been carried but a short distance.

Histologically these matted funiculi contain a large number of regenerating fibrillae irregularly arranged. Success may follow suture at this level, but it is much more satisfactory to carry resection back to a point where the funiculi are more normal; but when such is done sutures must not infrequently be applied under tension and the nerves must frequently be separated a long distance from their bed. One thing must be determined in peripheral nerve surgery, and that is, how much does raising of a nerve from its vascular bed interfere with nutrition and regeneration of a peripheral nerve. It seems to be generally accepted that a peripheral nerve may be raised with impunity almost any distance from its bed. Nothing definite is known concerning such a procedure.

Having determined the method of repair of a peripheral nerve and the arrangement of the bundles, the procedure to be followed is definite. The funiculi should be accurately contacted so that no fibers will be shunted, and then the epineural sheath should be closed. No blood clot should be allowed to develop between the ends, and the funiculi should not be crushed against each other. If the epineurium is not closed neurofibrillae will stray into the surrounding tissues and may produce a dense scar which will seriously interfere with the final result. The importance of the nerve pattern cannot be overemphasized. Apparently suture of the median and ulnar nerves give better results the nearer the trunk. The nerve pattern of both nerves just above the wrist is complicated and accurate recon-

struction of the nerve pattern is extremely difficult at this level. Difficulty in reconstructing the nerve pattern may account for the high percentage of poor results in suture of the external popliteal nerve, for if but little rotation occurred the fibers of the motor funiculus might be shunted into a sensory funiculus in the distal segment.

The possibility of suspension of nerve conduction with anatomic division of nerve fibers is indicated not infrequently in cases of compression by scar tissue. Nerve function may be completely suspended and still return in a short while. I have observed a case of complete paralysis of the musculospiral nerve of six months duration in which distinct signs of motion occurred within ten days following the removal of a small circular band at the level of the radial groove. In this case nerve conduction must have been suspended without anatomic division.

As in all reconstructive surgery many attempts have been made to bridge gaps in peripheral nerves—calves arteries, fascial tubes, recalcified bone tubules, etc. Some have been of value in the study of nerve regeneration in animals; but I have seen no results in man. Theoretically the best procedure would be to use a transplant from the same individual in which Wallerian degeneration was already established so that the developing neurofibrillae could penetrate the transplant at once. By the time, however, that these reach the line of suture between the transplant and the segment a connective tissue block is established.

The results of all attempts at repair by transplantation and flap operations have been somewhat indefinite. Some results such as those of MacKenzie have been reported in which after bridging a defect by a long filament of the sciatic the patient was able to walk fairly well; but it should be remembered in this connection that a complete sciatic lesion is not so disabling if the flexor and extensor muscles become stabilized and more or less fibrosis of the ankle joint occurs. As far as reconstructive surgery is concerned the end-to-end suture is the only procedure that gives a high percentage of results—neurolysis meets definite indications.

CONCLUSION

During the many years that have passed since Hodgen died many different procedures have been introduced and have been

discarded. Certain principles have been established definitely, apparently, as the result of cooperation of biologist, experimental zoologist, physiologist and surgeon.

1. That autografts are the ones that should be used.

2. That Roux's law of resumption of function for which the tissue was originally intended is a most important principle.

3. That the blood clot, which has been regarded as of importance in almost all types of reconstructive surgery in its development, is a dead substance and merely interferes with repair.

4. That in reconstructive surgery the parts should be restored to as nearly normal as possible, and that in doing this the anatomy and physiology of the tissues must constantly be kept in mind.

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TREATMENT OF EPITHELIOMA ABOUT THE FACE, MOUTH AND JAWS¹*

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The treatment of epitheliomata about the oral region is based upon fundamental conceptions, three of which are especially important, namely: (1) The beginning lesion is thought to be a purely local condition and its destruction leads to a cure. (2) When metastasis occurs the malignant cells travel by way of the lymph channels embolically and not by permeation of tissue. Thus, as a rule, the intervening tissue between the local lesion and the lymph nodes is not involved although the local lesion itself may infiltrate along tissue planes. (3) The collar of lymphatics surrounding the neck form a barrier which is not penetrated by embolic cancer cells in more than one or two per cent. of the cases.

MICROSCOPIC EXAMINATION

Although Broder's classification of epitheliomata in regard to prognosis has been criticized—notably recently by Plant—the conception is apparently of definite prognostic value and should exert an influence in the treatment. A definite step forward has been made through the attempt to judge the relative malignancy of a growth by microscopic examination. This will often eliminate useless surgery when the chances of the patient are better with irradiation.

1. From the Surgical Department of University of Kansas Medical School.

* Delivered before the Jackson County Medical Society, April 26, 1927.

IRRADIATION

The factors influencing susceptibility to irradiation are not completely clear. The action of radium when used in adequate dosages and by methods in vogue seems to depend principally upon two actions: First, a local destructive or even a cautery effect upon tissue; second, the production of an increase of fibroblastic tissue which tends to hem in, choke and hold inactive malignant cells. Thus the hypothesis has been brought forward that the action of irradiation on malignant cells is principally indirect; that is, the cancer cells are injured and the surrounding tissue completes the destruction. Ewing considers the reaction of the living tissues the main element in the selective cure of cancer by Roentgen ray or radium. Wood, however, takes refuge when commenting upon this hypothesis in the Scotch verdict, "not proven."

In pathologic material from clinical cures by radiation, apparently viable tumor cells have remained in the tissue rather indefinitely. Such evidence should make one hesitate to accept irradiation cures before sufficient time has elapsed in which to evaluate end results—at least three years and better five years.

In spite of exceptions and opposing statements the law of Bergonie and Tribondeau, which states that highly differentiated cells are more radio resistant than less differentiated cells, is largely true. Adult squamous cell carcinoma about the oral region with abundant keratosis is especially resistant to irradiation. Carcinomata exhibiting transitional epithelial characteristics with cylindrical or cuboidal cells without keratosis are less resistant. As emphasized by Ewing the transitional type of cell does not arise from the squamous lining of the lip, tongue or buccal surface but apparently from the tonsil, posterior nares, vault of the nasopharynx and possibly from deeper structures in the submucosa.

Several methods of using irradiation are current, but the gold covered emanation tubes containing 1 mc. and giving off 132 mc. hours of radiation or even the unfiltered glass "seeds" of 1 mc. are generally considered the most efficient method of applying radium for the destruction of malignant lesions of the oral region. The unfiltered emanation is more painful than the gold filtered and causes more necrosis. The question is not definitely settled, but irradiation postoperatively seems a procedure of some wisdom. It is well to remember that irradiation is usually effective almost immediately or not at all.

ELECTROCOAGULATION

In the surgical treatment of cancer in this

region, besides the scalpel and the cautery knife, the electrocoagulation method by use of the bipolar high frequency current, has now entered the field as an addition to our surgical armamentarium. The proper use of this method of excision and dissection depends upon the same basic principles as surgery. Chief among the advantages of the method are the ease of excision of tissue en mass, a lessened threat of emboli of malignant cells, little bleeding, slight postoperative pain and the possibility of follow-up operations if such are needed.

BASAL CELL EPITHELIOMA OF SKIN

Basal cell epitheliomata of the skin can be cured as a rule either by total excision by cautery knife with a margin of good tissue, by the electrocoagulation needle or by radium. The method of choice will depend on the size of the lesion, its duration and its location.

EPITHELIOMA OF THE LIP

Von Bonsdorff emphasized that in evaluating cures of epitheliomata of the lip, cures of three years duration tell little; cures of five years are necessary as 10 per cent. of the cases recur after three years. Brewer recently united the surgical statistics of several of the best American clinics and classified the cases into three groups. In group 1, which included the cases in which the primary lesion only was removed but without palpable lymph nodes, 66 per cent. remained well for five years. In group 2 the primary lesion and the lymphatic nodes without cancer involvement were removed and 92 per cent. remained well for five years. In group 3 the primary lesion and the cancer involved submaxillary lymphatic structures were removed and 34 per cent. remained well for five years. Brewer concluded that in cancer of the lip the results of surgical treatment are far superior to results yet obtained by radium. Surgical treatment may be followed by a plastic operation, or not as seems indicated, and allows examination of the type of cell predominating in the lesion.

Of the 92 radium treated cases with primary lesions without palpable nodes during the 4½ years before reporting Quick has 73 per cent. clinically free from disease. It should be noted that these are not five year cures. Surgery shows 80-90 per cent. cures for five years in this group.

Small early cancers of group 1 (Broders) probably do not need an excision of the related lymph nodes. All other cases of lip cancer, excepting the rather advanced cases in group 4 (Broders), the cases in which irremovable structures are involved, or cases in which the condition of the patient contraindicates exten-

sive surgery, may be considered operable and a neck dissection is indicated. Rather advanced cases in group 4 (Broders), or recurring fixed epitheliomata, are probably best treated by radium.

Sistrunk has shown that deferring excision of the lymphatic nodes until there is clinical evidence of metastasis reduces the chances of cure approximately 50 per cent.

EPITHELIOMA OF THE CHEEK

New observes that "the type of the disease which is primary in the cheek is exceeded in its malignancy only by melanocarcinoma." There is a type of growth, occurring usually as a papillary form clinically, which is not so malignant. When cancer of the cheek is anaplastic and nondifferentiated microscopically and highly malignant clinically, radium may be the best treatment. Brewer quotes 15 cases treated by radium that showed 35 per cent. cures for three years. On the other hand, Simmons in 13 cases treated by surgery, reports 52 per cent. cures for four years. In the less anaplastic more differentiated types, surgery has been generally considered the method of choice. The farther back the cheek cancer is located the poorer the outlook for a cure, especially if there is involvement of the masseter or adjacent muscles.

CARCINOMA OF PARANASAL SINUSES

Surgical principles are difficult to apply in carcinoma of the paranasal sinuses because of the location and the difficulty of observing definitely the extent of the malignant invasion. Surgery and radium combined give the best results. Free exposure and free drainage is given by opening the antrum from below with a cautery or by the electrocoagulation needle. Radium is depended upon to deal with the neoplasm and is implanted from within the formed cavity. When the orbit is involved the eye should be removed and radium implanted from above. Quick¹ has 28 cases of malignant paranasal sinus lesions not hopeless when first seen. Eleven cases were carcinoma and four sarcoma. At the time of the report 15 cases presented no clinical evidence of disease. One case was well in 7 to 8 years, 1 case was well in from 4 to 5 years, 2 cases were well in 3 to 4 years, 5 cases were well in 2 to 3 years, 4 cases were well in 1 to 2 years, and 2 cases were well in from 9 to 12 months.

The question of the necessity for lymph node dissection in this type of case is probably to be answered in the negative. Metastasis to the neck is relatively late and on the whole the neoplasms are relatively radio sensitive.

CARCINOMA OF THE PHARYNX

Carcinomata in the pharyngeal region generally are most often of grades 3 and 4 (Broders) and as a rule metastasis to the neck is relatively early. Involved lymph nodes were found in 65 per cent. of the cases examined by New. The results of surgery are on the whole not good, due to the location and the high grade of malignancy often encountered. When adenocarcinoma or epithelioma of low grade malignancy is found, surgical treatment can be instituted with a fair hope of success. In cases of grades 1 and 2, that are not far advanced, the method of choice is excision of the local growth with diathermy or cautery and dissection of the glands in the neck by cautery knife or electric needle. Carcinoma of grades 3 and 4 are usually radium cases and neck dissection is often useless. Every tumor presents its individual problem because of location, grade of malignancy and extent of metastasis and surgery by cautery or diathermy and radium or a combination of the two may all come into play for the best possible result.

New's statistics are as follows:

	No. of patients	No. living	Average period living
Nasopharynx	18	6—33.3%	25 months
Pharynx and tonsils	19	4—21.4%	27 months
Hypopharynx	7	3—42.8%	31.3 months
Tonsil	1	4—21.4%	27 months

EPITHELIOMA OF THE TONGUE AND NEIGHBORING MUCOSA

Practically all cancers of the tongue are of the squamous cell variety although a few adenocarcinomata have been reported. Very rarely an adenocarcinoma from the submucous glands is found in the neighboring buccal mucosa. The microscopic picture of cancer of the tongue is relatively uniform and on the whole growth is rapid and dissemination to the lymphatic nodes is relatively early. Less commonly a papillary form is observed which is usually less malignant. Unless one does a complete tongue excision along with the floor of the mouth, the location of the lesion influences operability greatly. As the location of the lesion approaches the base of the tongue an increasingly poor prognosis is necessary. Throwing light upon metastatic tendencies in cancer of the tongue is the observation by Judd that when a dye is injected into any area of the tongue the glands on both sides may pick up the particles.

Better statistics have always been kept of the malignant lesions of the tongue and neighboring mucosa than of elsewhere about the oral region. Obviously the end results following operation will depend upon the type of cases selected for operation.

1. Memorial Hospital, New York City.

Bloodgood in 260 cases has 62 per cent. five year cures in his early cases and 12 per cent. five year cures on his late cases.

Judd and New with a 40 per cent. operability, present 118 cases of which 80 per cent. were traced; 31 per cent. were free from the disease for over 3 years and 24.5 per cent. for over 5 years. The operative mortality was less than 1 per cent. Advanced cases were not accepted. Neck dissections were performed as indicated.

Butlin in 197 tongue cases had twenty operative deaths (10 per cent.) but 31 per cent. of the cases lived over 3 years. Of 44 on which gland dissections were not performed 29 per cent. showed cures and of 57 with gland resection 42 per cent. showed cures. His cases were moderately advanced and speak for gland resection.

Blair, who accepts cases more advanced than most surgeons, presents the following statistics in 73 cases: 64 per cent. of the cases were far advanced or inoperable when first seen. Eighty per cent. of this 64 per cent. were radically operated with an operative mortality of 23.5 per cent. in 73 cases. Forty of the 73 cases were operated 3 years before the date of the report. Eleven of the 40 (27.5 per cent.) represent 3 to 7 year cures, 9 of the 40 were dead from some cause, 20 of the 40 were not traced. Of the 33 operated less than the 3 years, 5 are well after 2½ years, 2 are well after two years and 5 over 1 year.

SUMMARY

To summarize, one can state that surgery alone when properly done in cancer of the buccal mucosa, including the tongue, offers about 60 per cent. chance of cure in early cases, 40 per cent. chance of cure in moderately advanced cases and 25 per cent. chance of cure in far advanced cases, when operated on by very radical methods and providing that structures are not involved the removal of which would be attended with death.

On the other hand, from the radium institutions, the following statistics may be presented:

Quick¹ reports 414 unselected cases treated from January, 1917, to January, 1925, of which 85, or 20 per cent., are reported clinically free from disease; 50 of the 85 cases were treated too late to be reported as three year cures.

Milligan (Manchester Radium Institute, England) in 812 cases treated from January 15, 1919 to end of December, 1925, showed 17 cases living over 3 years, 5 cases living 2 years and 29 cases 1 year or less free from the disease.

Regaud² reports 186 cases after a delay since treatment of at least one year and of five years at the most and tabulates 24 per cent. cures. Of the operable cancers 50 per cent. are reported as cured; 34 per cent. of the border line operable cancers and 10 per cent. of the inoperable cancers are reported as cured. Just what the three year rule would do to these statistics is a question of interest. One year delay since treatment is not sufficient time for patients clinically free from cancer to be rated as cured.

The statistics for radium here given are from places where radium is plentiful and radium emanation has been available and the men applying the radium are radiotherapists. In other less favored locations where radium is not plentiful and radium emanations are not available it is reasonable to assume that even these results cannot be approached.

In cancer of the tongue and neighboring intra-oral mucosa wide excision of the local growth with cautery knife or by electrocoagulation methods can be fairly advocated. Those moderately advanced cases in which the clinical picture is of rapid growth and biopsy shows the growth to be in group 4 (Broders), radium application is probably preferable. Recurring fixed carcinomata more or less inaccessible surgically without destroying structures necessary to life, such as the internal carotid artery, are best treated with radium. Radium is very valuable in conjunction with surgery in cases in which at operation the removal of cancerous tissue is not complete, or incomplete removal is suspected. All patients of course in whom the general condition contraindicates operation, become candidates for irradiation.

Gland dissection en bloc on one or both sides in operable cases is necessary, remembering that when the local operation and the gland dissection are divided into two stages, the operative mortality is somewhat decreased, even if such a procedure is not the ideal operation. An exception may be made to the preceding statement in very early carcinoma when the cells show a high grade of differentiation with a relatively benign clinical picture. In such cases a neck dissection may not be necessary.

Operated radically by cautery excision 25 per cent. of the advanced cases were cured before the principle of cellular differentiation was generally applicable. With the proper selection of cases, the percentage of cures when operated by radical methods should increase somewhat and thereby some useless surgery be eliminated.

Radical operations for the removal of the tongue as practiced by Blair although so far giving a mortality rate of 30 per cent. shows a

1. Memorial Hospital, New York City.

2. Radium Institute, Paris.

50 per cent. rate of survival for three years without recurrence.

Simmons, who has had a wide experience with radium at the Collis P. Huntington Memorial Hospital and also with surgery, stated in 1925: "It is probable that any lowering of the mortality of the disease when situated in the mouth will be due more to early diagnosis and prompt radical removal than to any change in the present accepted methods of treatment. I know that most radiologists and many clinicians will not agree with this but I have yet to be convinced that when an attempt at radical cure is to be made, surgery followed by irradiation is not the best method of treatment."

CONCLUSION

From the perusal of recent surgical and radium statistics the conclusion is substantiated that for accessible malignant lesions, not hopeless from the first because of undifferentiated and pleomorphic cellular characteristics, surgery is indicated whenever possible for both the primary growth and tributary lymphatic field, providing a complete cure is attempted. Proper evaluation of the best method of treatment for the individual case should occur when the cellular characteristics, the irradiation response and the operability are all considered. The ideal is a combination of such knowledge in the individual who presumes to treat cancer, unless a smoothly working unit composed of a pathologist radiologist and surgeon is available concurrently.

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BIBLIOGRAPHY

1. Broders, A. C.: *South. M. J.* **74**:656, 1925.
2. Broders, A. C.: *M. J. & Record* **121**:133 (Feb. 4) 1925.
3. Butlin, Henry T.: *Brit. M. J.* **1**:1-6, 1909.
4. Blair, V. P.: *Surg. Gynec. Obst.* **36**:178, 1923.
5. Bloodgood, J. C.: *Boston M. & S. J.* **120**:49, 1914.
6. Brewer, G. E.: *Surg. Gynec. Obst.* **36**:169-177, 1923.
7. Crile, G. W.: *Surg. Gynec. Obst.* **36**:159-162, 1923.
8. Ewing, J.: *Am. J. Roentgenol.* **9**:334, 1922.
9. Judd, E. S., and New, G. B.: *Surg. Gynec. Obst.* **36**:163-169, 1923.
10. New, G. B.: *Surg. Gynec. Obst.* **40**:177, 1925.
11. New, G. B.: *J.A.M.A.* **74**:1297 (May 8) 1920.
12. Plaut, Alfred: *Arch. Path. & Lab. Med.* **3**:240-267, 1927.
13. Quick, D.: *Radium Report for Memorial Hospital, New York City, Paul B. Hoeber, Inc.*, 1924.
14. Quick, D.: *Surg. Gynec. Obst.* **70**:462, 1926.
15. Quick, D.: *J. Radiol.* **4**:318, 1923.
16. Quick, D.: *Brit. J. Radiol.* **31**:81, 1926.
17. Quick, D., and Culter, M.: *Am. J. Roentgenol.* **14**:529, 1925.
18. Regaud, O.: *Brit. J. Radiol.* **30**:362-367, 1925.
19. Sistrunk, W. E.: *Ann. Surg.* **73**:521-526, 1921.
20. Simmons, C. C.: *Am. J. Roentgenol.* **13**:545-550, 1925.
21. Von Bonsdorff, I. G.: *Soc. International Chem. (11th Congress) 1908*, pp. 11, 16.
22. Wood, F. C.: *J.A.M.A.* **85**:1039-1045, 1925.

PREVENTION AND TREATMENT OF THE TOXEMIAS OF THE LATTER PART OF PREGNANCY

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The classification of the toxemias of the latter part of pregnancy used in this paper is based upon that reported by Stander and Peckham in 1926¹ and further discussed recently by J. Whitridge Williams.² This classification includes four distinct groups of cases: chronic nephritis, low reserve kidney, pre-eclampsia, and eclampsia. In addition there will be cases of eclampsia or pre-eclampsia superimposed upon chronic nephritis or low reserve kidney. Often it is not possible to determine in which group a certain case belongs until after close observation for months after delivery or possibly during a subsequent pregnancy.

Chronic nephritis as a complication of pregnancy usually presents a definite, well recognized clinical picture. There is often a history of nephritis during or independent of a previous pregnancy; the condition usually appears fairly early in pregnancy and, as pregnancy advances, steadily increases in severity; though often somewhat checked in its course by restricted diet and rest, it tends after a few weeks to become again gradually more severe; in marked cases the nonprotein nitrogen of the blood is usually considerably elevated; after delivery the condition tends to show slight and gradual improvement, but only rarely clears up entirely; it should be expected to appear earlier and in a more serious form in each subsequent pregnancy; and each successive pregnancy will leave the kidneys with greater permanent damage.

Low reserve kidney is applied to those cases of toxemia in which there is present neither any evidence indicative of permanent kidney damage nor any of the premonitory symptoms of eclamptic convulsions. The blood pressure is not highly elevated and the albumin is usually not more than moderate in amount; there may be headache and edema but there is nothing to suggest impending convulsions; the blood chemistry is normal; the condition usually improves markedly with restricted diet and rest, and it may even clear up entirely not to appear again for the duration of the pregnancy; following delivery there is a prompt return to normal; it does not usually appear in subsequent pregnancies, but when it does there is no tendency for it to be more severe in successive pregnancies.

The term pre-eclampsia is reserved only for those cases of toxemia which present acute or

severe symptoms that suggest impending eclamptic convulsions: extreme headache, greatly elevated blood pressure, large albumin content in the urine, epigastric pain, eye symptoms, etc. These cases are usually of rather rapid development but they may be superimposed upon either a low reserve kidney or a chronic nephritis of more or less long duration. Without prompt treatment pre-eclampsia will rapidly be complicated by convulsions thereby becoming eclampsia. As with eclampsia, if recovery ensues, there is generally prompt and complete return to normal and the condition is not particularly apt to return in subsequent pregnancies.

The clinical characteristics of eclampsia are well known and do not here need discussion. However it should be mentioned that, if in cases of eclampsia the nonprotein nitrogen is definitely elevated, or if evidence of permanent kidney damage remains after the puerperium, it should be assumed that the eclampsia was superimposed upon chronic nephritis.

Careful investigation shows that throughout the country one woman in seven presents evidence of some degree of toxemia during the latter half of pregnancy, one woman in two hundred develops eclampsia, and one woman in six hundred dies of eclampsia. There are many additional deaths from chronic nephritis complicating pregnancy or persisting after delivery. Besides, the infant death rate is increased in all types of toxemia, reaching thirty per cent. or more in eclampsia and chronic nephritis. And yet almost all cases of toxemia either are entirely preventable, can be modified by prenatal care, or can be arrested by appropriate treatment, before they develop into a critical condition, providing there is close cooperation between physician and patient.

PREVENTION

The prevention of the toxemias may be attempted either by prenatal care or by the prevention of pregnancy itself. In certain cases it is both permissible and advisable to prevent pregnancy in order to prevent toxemia.

The use of contraceptive measures should be advised in almost all cases of chronic nephritis. Less often it may be advisable to perform a sterilization operation. However, under certain circumstances when a baby is particularly desired, the mother with a mild nephritis may be permitted to take the chance of pregnancy, providing she understands that this added strain is almost certain somewhat further to impair her already damaged kidneys and that it may shorten her life very materially. There are some cases, clinically chronic nephritis complicating pregnancy, which,

months after delivery, may finally present no evidence of permanent kidney damage; in these cases also it is usually best to advise against further pregnancy.

After a nephrectomy the remaining kidney should show normal function for at least three years before pregnancy under strict supervision should be permitted. Until this three year period elapses contraceptive measures should be uniformly practiced; after this three year period has passed their use is fully justified even though the remaining kidney functions normally; and if the kidney shows the slightest evidence of damage their use is obligatory.

The history of a low reserve kidney, pre-eclampsia, or eclampsia during a previous pregnancy without any evidence of permanent kidney damage is not in itself a contraindication to pregnancy. Therefore, among the toxemias of the latter part of pregnancy, chronic nephritis alone offers a definite contraindication to pregnancy.

The larger and more important field for the prevention of the toxemias of the latter part of pregnancy is that of prenatal care. The earlier the expectant mother places herself under the care of her physician the greater opportunity has he to prevent the development of toxemia; the more careful the observation of the patient by the physician the earlier will the presence of toxemia be recognized; and the closer the cooperation between the physician and patient the more success will the physician have in preventing the development of the toxemia into a serious condition. Cases which give a history of previous low reserve kidney, pre-eclampsia, or eclampsia should be observed particularly closely, and cases with chronic nephritis should be under special treatment from the beginning.

PREVENTION OF TOXEMIAS

Measures directed toward the prevention of the toxemias of pregnancy should be carried out from the first visit through the duration of the pregnancy. The importance of these measures should be thoroughly understood by the expectant mother. These measures may be summarized as follows:

A. An office visit every four weeks during the first six months of pregnancy, then every two weeks until the last month of pregnancy when weekly visits should be made until delivery occurs.

(1) At each visit examine a specimen of the first urine voided that morning for the presence of albumin and the estimation of the specific gravity. If any abnormality is found, a complete urinalysis should be done. Albumin even in the slightest amount should be considered evidence of toxemia until proved otherwise. A large amount of albumin

suggests chronic nephritis, pre-eclampsia, or eclampsia. The amount of albumin is a rough index to the severity of the toxemia. A fixed low specific gravity suggests kidney damage while a high specific gravity suggests scanty intake of fluids, retention of fluids, or the presence of sugar.

(2) At each visit the systolic and diastolic blood pressure readings should be taken. If the systolic pressure is above one hundred thirty the possibility of beginning toxemia must be considered; if above one hundred forty the presence of toxemia should be assumed even in the absence of albumin in the urine or toxic symptoms; if above one hundred sixty, chronic nephritis, pre-eclampsia, or eclampsia is probably present. When hypertension is present always look for evidence of hyperthyroidism. A diastolic pressure above ninety is rather definite evidence of chronic nephritis, except in the marked hypertensions of pre-eclampsia and eclampsia.

(3) At each visit the patient should be weighed. A rapid increase in weight suggests retention of fluids from toxemia; excessive gain in weight during pregnancy and, to a lesser degree, previous adiposity, predispose the expectant mother to the development of toxemia. The gain in weight during pregnancy should usually be limited to twenty-five pounds, and in obese individuals to fifteen pounds or less.

(4) At each visit a careful search for symptoms of toxemia should be made: headache, dizzy spells, fainting, visual disturbances, nausea, vomiting, edema, epigastric pain, constipation, scanty output of urine, etc. When they are present, careful judgment should be used in their interpretation and the appropriate modifications of the usual prenatal directions should be advised.

(5) Also at each visit the general condition of the mother and the condition and development of the fetus should be determined. At the first visit and again during the seventh or eighth month a thorough obstetrical examination should be made for the determination of the prognosis and probable management of labor.

B. The expectant mother should be given directions about hygienic living during pregnancy that will help prevent the development of toxemia and keep her in good physical condition.

(1) Moderate exercise or brisk walks should be taken regularly but not to the point of fatigue. Avoid heavy housework, vigorous exercise, sudden exertion, and long or rough automobile rides. Retire early and sleep eight or nine hours each night. Rest for one hour after the noon meal. The bedroom windows should be well open at night. As much time as possible should be spent in the open air and sunshine. The home should be kept well ventilated at all times.

(2) Have three regular meals a day. Do not eat between meals. Do not try to eat for two persons. Drink at least one quart of water every day in addition to the fluids taken at meals. Eat simple, wholesome foods, including generous amounts of fruits, vegetables, and milk. Eat only sparingly of meat, coffee, tea, and cocoa. Avoid entirely fried foods, all highly seasoned or spiced foods, and any foods that usually give indigestion. Use salt and pepper to taste but avoid their excessive use.

(3) The bowels should be regulated without the use of strong cathartics. Try to have an evacuation each morning after breakfast. If constipated, eat laxative foods in large amounts (fresh fruit, stewed

fruit, green vegetables, bran, coarse cereals, coarse breads, etc.) If necessary, take mineral oil or milk of magnesia, or both at bedtime, and also in the morning when required. In the afternoon if a satisfactory evacuation has not been obtained, take a small soapsuds enema (eight to sixteen ounces).

(4) Avoid exposure to "colds," sore throats, coughs, and other infectious and contagious diseases. Give teeth careful attention and do not hesitate to consult your dentist promptly for dental trouble. Wear comfortable clothes that do not constrict any part of the body. Bathe frequently, but do not take tub baths in the last month of pregnancy.

C. The mother should be thoroughly acquainted with the symptoms of toxemia and impressed with the importance of reporting their appearance promptly.

TREATMENT

As soon as any evidence of toxemia is detected an attempt should be made to determine to which group of toxemias the case belongs in order that appropriate prenatal care and treatment may be promptly carried out. If there is doubt as to the classification of a case, always treat for the most serious possibility. When any toxemia is present, office visits should be made at least once a week, and more often if the severity of the case indicates. Other modifications of the usual prenatal directions should be made according to the classification and severity of the case.

LOW RESERVE KIDNEY

The majority of cases of toxemia will fall in the group of low reserve kidney. The modifications of the normal prenatal care generally required by these cases may be summarized as follows:

(a) Weekly visits for urinalysis, blood pressure, weight, and observation.

(b) Report at once any exaggeration of the toxic symptoms.

(c) All active exertion should be stopped. Rest one or two extra hours each day.

(d) Do not eat any meat, coffee, tea, cocoa, or pepper. Eat only sparingly of fish, eggs, and salt. Drink at least two quarts of water each day besides the fluids taken with meals. Keep a record of the urinary output.

(e) If the condition is severe or does not respond to these measures by showing a lowering of blood pressure, diminution of the albumin in the urine, and decrease of toxic symptoms, the patient should be observed more closely, preferably in a hospital; she should be put to bed; fish, eggs, and salt should also be removed from the diet list; and if edema is present, the fluid intake should be restricted and free saline catharsis should be obtained every one or two days. If improvement does not occur with these modifications, we must

strongly suspect the presence of chronic nephritis or pre-eclampsia.

(f) In a few cases of simple low reserve kidney, the condition may be so severe or so refractory to treatment as to warrant the induction of premature labor.

(g) As the patient shows improvement, the restrictions should be made less stringent, but even though the toxemia apparently clears up entirely, a complete return to normal prenatal measures should not be made.

CHRONIC NEPHRITIS

As soon as a case of chronic nephritis complicating pregnancy is recognized every means for lessening the burden of the kidneys should be immediately enforced. In all cases, and particularly in those with a moderate or severe nephritis or those in mothers who already have living children, the advisability of the artificial interruption of pregnancy must be carefully considered. The possibility of performing a sterilization operation in conjunction with abdominal hysterotomy under spinal anesthesia should be kept in mind. If it is decided to allow the pregnancy to progress, strict modifications of the normal prenatal care should be carried out. These modifications briefly are:

(a) Visits for urinalysis, blood pressure, weight, and observation should be made once a week or more often as the severity and progress of the case indicate.

(b) Immediate examination for any exaggeration of the toxic symptoms.

(c) Complete rest at all times keeping all except mild cases confined strictly to bed.

(d) No meat, fish, eggs, coffee, tea, cocoa, salt, or pepper.

(e) Drink at least two quarts of water during the day besides the fluids taken with meals.

(f) Keep a daily record of fluid intake and urinary output.

(g) If any edema develops, limit the fluid intake and give saline purgatives each morning until the edema is under control.

(h) If the condition has become or is threatening to become severe in spite of rigid treatment, termination of the pregnancy is usually indicated. At each visit the possibility of the presence of this indication should be considered in order that the optimum time for interrupting pregnancy or for inducing premature labor may not be allowed to slip past.

(i) If marked uremia is present try profuse sweating, phlebotomy, intravenous therapy, continuous saline catharsis, colonic irrigations, or other accepted methods of treatment. If convulsions develop, include the measures discussed under the treatment of eclampsia.

ECLAMPSIA

Stroganoff's principles for treating eclampsia,³ attempting to prevent further convulsions by medical treatment and avoiding all radical operative deliveries, are now quite generally recognized as sound and securing the lowest morbidity and mortality. They are based upon the facts that each additional convulsion definitely makes the prognosis more serious, that all major operative procedures practiced during the period of convulsions are attended by a high mortality rate, and that in the majority of cases the convulsions can be promptly controlled by proper medical treatment.

Our treatment, though following these principles, is quite a departure from his "prophylactic method," particularly in the use of magnesium sulphate intravenously, the omission of chloral hydrate and chloroform, and the more frequent use of phlebotomy. No set rules of medication can be expected to apply to all cases; therefore the following measures should be considered only as an outline of treatment for the usual case and should be modified by the physician to the requirements of the case in hand.

(a) *Magnesium sulphate*.⁴ Give 20 cc. of a ten per cent. solution intravenously as promptly as possible.⁵ After one hour, if convulsions recur or threaten to occur, repeat the same amount. Thereafter give when convulsions occur or threaten but not more than every three hours. Do not use it without a definite indication. Always give the injections slowly. Watch the blood pressure closely, for if it is rising and nearing the point at which convulsions occurred, further convulsions are threatening. The administration of magnesium sulphate intravenously causes absorption of fluids by the blood stream thereby reducing cerebral edema, lessening intracranial tension, lowering the blood pressure, increasing the blood volume by dilution, relaxing the peripheral blood vessels, and promoting diuresis. There should be no severe reaction following its use in the vein. It is usually very effective in its action and should always be used if available; intramuscularly its action is slower and less certain.

(b) *Morphin sulphate*. Give morphin sulphate, one-fourth grain hypodermically, immediately. If magnesium sulphate is not also available for prompt intravenous use, one-half grain of morphin sulphate should be given instead of one-fourth grain. In either case, if after half an hour a fresh convulsion seems imminent or actually occurs and the respirations are not below twelve per minute, give morphin sulphate one-fourth grain. Then give

one-fourth grain every two to five hours, sufficient to keep the patient quiet, drowsy or asleep, if conscious, pupils moderately contracted, and respirations definitely slowed, until the danger of convulsions seems passed. The correct amount of morphin for an individual case can only be determined by a physician in constant attendance upon the patient.

(c) *Venesection.* Venesection should be done in cases which do not respond promptly to morphin and magnesium sulphate by the cessation of convulsions and the dropping of the blood pressure; such cases should be infrequent. However, if magnesium sulphate is not available, venesection should be done in almost all severe cases as an adjunct to the morphin treatment. Bleed promptly if edema of the lungs develops. Before delivery remove not more than 500 cubic centimeters. After delivery there should be taken not more than 750 cubic centimeters, less the amount of blood lost at the time of delivery. Always stop venesection when the blood pressure drops to one hundred fifty. Excessive bleeding may cause shock and greatly predisposes the patient to infection.

(d) *Fluids.* If the patient is conscious, give water as freely as possible by mouth. If the patient is comatose and has been given magnesium sulphate intravenously it is usually not advisable to give fluids because this drug causes diuresis which is the object for which fluids are given. However, if the patient is comatose and magnesium sulphate is not available for intravenous use, water should generally be given in generous amounts by gavage, per rectum, or intravenously in the form of a five per cent. glucose solution. This should be done only when the patient is thoroughly under the effect of morphin so as to minimize the possibility of starting up fresh convulsions by its administration. Cleansing the gastro-intestinal tract by gastric lavage, colonic irrigations, or saline catharsis seems inadvisable because these measures may excite the patient to repeated convulsions and do not seem to improve the prognosis.

(e) *General care.* The patient with eclampsia should be kept in a well ventilated darkened room in which quiet is maintained. She should not be disturbed for examination or treatment more than is absolutely necessary because of the danger of exciting convulsions. There should be a competent person in constant attendance. When comatose, the patient should be kept on her side and the pharynx kept free of blood and mucus. During convulsions some form of mouth gag should be used to prevent the patient from biting her tongue, because the resultant bleeding would

increase the danger of an aspiration pneumonia.

(f) *General treatment.* Try to cause light sweating by using warm blankets or hot water bottles. This will cause some dilatation of the peripheral blood vessels and so help to lower the blood pressure. If oxygen is at hand, it is of distinct benefit directly after a convulsion until the respirations return to normal. Use circulatory stimulants as indicated.

(g) *Delivery.* Although it improves the prognosis and simplifies the treatment in cases of eclampsia to have labor and delivery completed, nothing should be done toward inducing labor during an acute eclamptic state and only conservative measures for hastening delivery should be practiced. As soon as the cervix is fully dilated, deliver promptly by the simplest means. Vaginal delivery before full dilatation of the cervix and Cesarean section should almost never be practiced during the period of convulsions.

(h) *Induction of labor.* The majority of antepartum eclamptics go into labor spontaneously during the acute eclamptic state. Of the cases which do not, many will do so spontaneously during the next few days while the toxemia is under control and convulsions do not threaten. However, if they do not then go into spontaneous labor, measures for inducing labor should be considered: if the toxemia is readily held under control or is actually clearing up, it will probably be best to leave the patient strictly alone and allow spontaneous labor to start, particularly if the baby is premature; but if the toxemia is only held under control by vigorous treatment or is threatening to become more severe, it is usually advisable to induce labor promptly or, upon proper obstetric indication, perform Cesarean section. The combination of castor oil, quinine, enema, and pituitary extract as recently discussed by Mathieu⁶ starts labor in the majority of cases. In cases where this method fails, bag induction is usually the method of choice.

(i) As soon as the eclamptic patient is under control, the general care should include rest in bed, a bland, salt free, low protein diet, forced fluids, an accurate record of fluid intake and urinary output, frequent urinalysis and blood pressure estimation, and saline catharsis when edema is present until all evidence of toxemia has disappeared, after which there should be a gradual return to normal care. At all times any evidence of impending convulsions should be carefully watched for and when present treated promptly.

PRE-ECLAMPSIA

The treatment of cases of pre-eclampsia involves no methods not already discussed under

eclampsia, for they actually are cases of eclampsia which have not yet become severe enough to have convulsions. They must have prompt treatment, otherwise convulsions are almost sure to occur and they may occur in spite of it. The measures used in pre-eclampsia to ward off the impending convulsions and reduce the severity of the toxemia may be briefly summarized as follows:

(a) Rest in bed in a quiet room under close observation.

(b) A bland, low protein, salt free diet.

(c) Force fluids.

(d) Keep an accurate record of the fluid intake and the urinary output.

(e) When convulsions threaten, give morphin sulphate and magnesium sulphate as discussed under eclampsia, and perform venesection when necessary.

(f) If convulsions actually occur, treat the case as discussed under eclampsia.

(g) In pre-eclampsia follow the same conservative principles for the induction of labor and the hastening of delivery as with eclampsia. The ideal time for labor and delivery in cases of eclampsia and pre-eclampsia is while the toxemia is under firm control.

Holmes Building.

BIBLIOGRAPHY

1. Stander and Peckham: *Am. J. Obst. & Gynec.* **11**:583-602 (May) 1926.
2. Williams, J. Whitridge: *J. A. M. A.* **88**:449-454 (Feb. 12) 1927.
3. Stroganoff: *J. Obst. & Gynec. Brit. Emp.* **30**:1-29 (Spring) 1923.
4. Dorsett, Lee: *Am. J. Obst. & Gynec.* **11**:227-231 (Feb.) 1926.
5. Lazard, Irwin; and Vruwink, J.: *Am. J. Obst. & Gynec.* **12**:104-112 (July) 1926.
6. Mathieu, A.: *Am. J. Obst. & Gynec.* **13**:223-227 (Feb.) 1927.

BLADDER TUMORS: REMOVAL WITH FULGURATIONS*

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ST. LOUIS

The first bladder tumors were described by Lacuna in 1551 and at that time he confounded many of these cases with prostatic hypertrophy because his diagnostic means were so limited. Back in those days tumors of the bladder were treated with lavages and if the tumor was of such size as to cause complete retention, then sounds were used to perforate them.

With the invention of the cystoscope a more accurate means of diagnosis was at

hand and it soon became apparent that even though many of these vesical tumors had the appearance of benign growths, they were in reality malignant and their transplantation was very rapid when surgery was done on open bladders.

As early as 1896 Nitze reported a series of tumors which he successfully eradicated through the operating cystoscope, and he secured results in this series that were incomparably superior to those obtained by radical surgery.

Beer, in 1910, was the first operator who successfully removed papillomata of the bladder by high frequency current. The ease of application and the apparent gratifying and permanent results obtained by this method caused urologists all over the world to conform to this method of treatment.

Recent results have shown that this is the ideal method of attacking these tumors, especially since the addition of radium to our therapeutic armamentarium.

Similar to tumors elsewhere in the body, the etiology of bladder tumors is still theoretical and speculative. We feel today that such predisposing factors as irritation, whether mechanical, chemical, or parasitic in nature, can be assigned as the cause in innumerable cases. This theory is borne out by the frequency of bladder tumors found in cases of long standing bladder calculi, and also in analine dye workers who have been subjected to prolonged irritation.

The universally accepted classification of tumors today is a group of three, namely, (1) those of epithelial origin, (2) those of connective tissue origin and (3) those originating from muscular tissue.

The type of tumors in which we are particularly interested in today is the papilloma of benign nature. It is quite impossible to differentiate the benign from the malignant growths on gross appearance. The benign tumors, cystoscopically, have the appearance of light, shiny filaments, bulbous and pedunculated in character, which float about in the distended bladder quite freely but are adherent at their pedicle.

About forty-three per cent. of these tumors are located in the region of either ureteral orifice; next in frequency is the posterior bladder wall just back of the trigone.

Papillomata occur more frequently in men than in women and they are more prevalent between the ages of forty and fifty. This is in contradistinction to carcinomata, which are most often found between the sixth and seventh decades.

The trend of opinion today in regard to the

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relative frequency of benign and malignant papillomata is that ultimately all benign papillomata will in time become malignant.

The most constant and frequently the first and only symptom is hematuria. When a profuse and painless hematuria occurs one should always be suspicious of bladder tumor and the patient should be cystoscoped as early as possible. This bleeding may be intermittent, often several years elapsing, and then when the patient presents himself after this prolonged interval it is possible that the benign growth might have undergone malignant degeneration. Pain in vesical tumors is variable and may be a mild ache or a severe, constant, agonizing pain over the entire bladder. The pain often radiates down the thighs and legs due to the extent of the growth upon the pelvic nerves. The tumor may grow so close to the vesical orifice that it causes obstruction.

The most reliable and precise method of diagnosis is the cystoscope. In skillful hands it is passed with little or no pain, and with one of experience a marked degree of accuracy can be demonstrated in differentiation between benign and malignant growths and in determining the size, shape, location, and appearance of these tumors.

It is my contention that no treatment should be started in suspicious cases unless the cystoscopic examination is verified by microscopical section.

Less accurate methods of diagnosis are, rectal examination, abdominal palpation, and cystography, after the bladder has been filled with thorium or Cunningham's solution.

The dismal outlook regarding the prognosis and treatment of bladder tumors has turned to a happier and more gratifying advance in the last ten years. In 1915 an analysis of 666 cases by Gardner showed that in 224 cases of complete resection, recurrence developed in 43.7 per cent. and in 442 cases of simple excision the growth recurrence was as high as 88 per cent. So it is readily perceivable from these statistics that the method of treatment at this time was quite unsatisfactory and worthy of a change. Judd reports that good results lasting over five years from radical surgery was as low as 7 per cent. Eleven cases, all malignant, treated by Ewing with radium cystoscopically all recovered and showed no recurrences for periods as long as four years. Hugh Young advocates attacking these tumors by fulguration, radium, and radical resection, while Barringer advocated intravesical implantations of radium through the suprapubic wound. Thus

we have a diversity of opinions in the treatment of bladder tumors, but the purpose of this paper is to confine the subject to fulguration, its method of application and action on benign and certain types of malignant tumors.

The treatment of these tumors through the operating cystoscope has become so perfected that in the hands of a trained urologist I think it stands paramount in the method of choice. In 1910 Edwin Beer advanced the method of treating these tumors by fulguration. This method is erroneously often spoken of as high frequency, electrocoagulation, and also dessication, but these terms are not synonymous. Electrocoagulation, and dessication, is where the unipolar current is used and a direct white heat produced in the electrode, while the bipolar or D'Arsonval current produces a shower of destructive intermittent sparks and is termed fulguration. The D'Arsonval current is our choice and the one which is most destructive, although either method may be employed. The apparatus we usually use is a Wappler or Fisher machine hooked up to a Bugbee electrode and worked through an operating cystoscope. The bladder is first irrigated until the return flow is perfectly clear. The anterior and posterior urethra are anesthetized with novocain, alypin, or any derivation of cocaine that the operator may care to employ. The bladder is then filled with 250-300 cc. of sterile water and the cystoscope is introduced. After the size, shape, and location of the tumor have been noted through the observation telescope, the operating telescope is introduced through the same sheath which has been left intact in the urethra. The Bugbee electrode is introduced into the bladder and after manipulating with the elevator the tip is finally placed on the surface of the tumor and the current applied by means of the foot switch. Growths should be fulgurated from surface downward toward the base to prevent transplantation of particles of the tumor into the bladder.

The less frequent recurrence of papillomata treated by this method as compared with those treated otherwise is presumably due to the fact that cells are destroyed prior to their spilling on the mucosa. In large pedunculated growths this method of attack may be impossible. It may be feasible to attack the pedicle and burn it straight across and the detached growth be removed from the bladder by means of a Bigelow evacuator. The position of the electrode should be changed frequently and application of not longer than 20-30 seconds be given each area at a single sitting.

At the point of application gas bubbles will be seen to arise and as the tissues whiten a hissing noise is heard as the tumor melts away. Sparks may begin to fly which are caused by bad conduction at those areas which have become blackened and charred from the fulguration. The electrode often adheres at these points of bad contact resulting in parts of the undestroyed growth being torn away with a subsequent hemorrhage which not only delays the progress but may also cause tumor cells to be transplanted to normal mucosa. It is indeed fascinating to observe how rapidly and completely and at the same time how painlessly the tumor is eradicated. Bleeding areas cease almost immediately upon application of the fulguration, thus maintaining a clean field and simplifying the method of treatment. The spark gap should be about 5 cm. in length. I have noticed that too strong a current only has a tendency to burn off the insulation from the electrode and cause a short in the cystoscope.

The eradication of the pedicle should be quite complete, especially around its base. When one considers that the current does not penetrate much more than the diameter of the terminal it is evident that not much harm can be done to the normal mucosa by intensive fulguration.

At completion of the fulguration the bladder should be washed thoroughly with a mild antiseptic solution to avoid parts remaining on the base as areas for potential transplants. Any bleeding the first twenty-four hours subsequent to fulguration can usually be controlled by a bladder lavage containing a small amount of adrenalin.

An ulcer usually remains for about a fortnight at the old site of the tumor, but quite often this blanches out and leaves no scar. The patient should be kept under cystoscopic observation at intervals of three months and for a period of at least two years before complete dismissal. A month should be allowed to elapse between treatments so that all the slough may be separated and the healing processes well advanced. If a growth appears to be increased rather than shriveled in size after the first setting one should be suspicious of malignancy.

I am of the opinion that in the treatment of benign growths, and even in certain cases of malignant growths, we are much wiser if we confine our treatment to fulguration, radium implants, and deep X-ray therapy with the bladder closed than if we work on open bladders involving major surgery.

One will also find that if radium, either in tube form or radons, be applied previous to fulguration in very large benign types, the rapidity of the cure will be far superior than if fulguration alone were applied. It is very interesting to note that about 65 per cent. of the papillary carcinomata respond to fulguration in conjunction with radium, but that the infiltrating carcinoma is very rebellious and little affected by this method of treatment.

The following advantages of fulguration over suprapubic surgery may be cited: (1) Easy application of fulguration; (2) no confinement to bed after treatment, and rapid recovery; (3) very small possibility of bladder or kidney infections after treatment; (4) local urethral anesthesia; (5) that 95 per cent. of benign papillomata and 65 per cent. of papillary carcinomata can be destroyed by fulguration; (6) the possibility of recurrence in other parts of the bladder is diminished.

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BIBLIOGRAPHY

1. Kretschmer, H. L.: Fulguration Treatment of Bladder Tumors, *Surg. Clinics of Chicago* 2:821 (August) 1916.
2. Kelly and Neill: Cauterization and Fulguration of Bladder Tumors, *J. A. M. A.* 66:721 (March 4) 1916.
3. Rigdon, R. I.: Treatment of Bladder Tumors by Radiation and Fulguration, *California State J. Med.* 31:243 (June) 1921.
4. MacGowan, Granville: D'Arsonval Method of Coagulation Necrosis for Removal of Immense Intravesical Outgrowth of Prostate, *J. Urol.* 6:321, 1921.
5. Kreutzmann, H. A.: Treatment of Hunner's Ulcer of the Bladder by Fulguration, *California State J. Med.* 20:128-130 (April) 1922.
6. Young, H. H., and Scott, W. W.: The Results Obtained by Various Methods in the Treatment of Tumors of the Bladder, *New York M. J.* 118:163, 1923.
7. Ball, W. G.: Treatment of Simple Papilloma of Bladder by Fulguration, *Brit. J. Surg.* 11:760-771 (April) 1924.
8. Keyes, Edward L. Jr.: *Diseases of the Genito-Urinary Organs*, New York City, D. Appleton and Company, 1917, p. 545.

SYNTHALIN THERAPY IN THE TREATMENT OF DIABETES MELLITUS*

PRELIMINARY REPORT

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AND

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The work on guanidine by Underhill and Blatherwick,¹ Watanabe,² D. Noel Paton and Findley,³ and Von Kossel,⁴ prompted Frank,⁵ and his coworkers, Nothmann and Wagner, of the Minkowski Clinic in Breslau, to produce a synthetic preparation of a guanidine base which possessed the property of lowering blood sugar without the toxic or cramp-like effects of

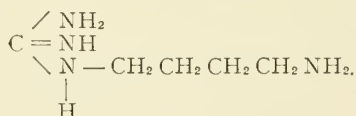
* Read before the Jackson County Medical Society, January 31, 1928.

the guanidine compounds. This preparation they called synthalin.

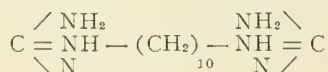
Frank et al found that when guanidine was injected subcutaneously in doses of 0.3 grams per kilogram of body weight in a 24-hour fasting rabbit, there was obtained a progressive hypoglycemia which in 4 hours reduced the blood sugar from 0.35 per cent. to 0.05 per cent. It was also noted at this time that these experimental animals showed clonic muscle spasm. The administration of glucose subcutaneously prior to the injection of guanidine or in connection with it delayed the reaction 24 to 36 hours. Adrenalin produced like results. But on the other hand after the muscle spasm was established glucose or adrenalin were ineffective.

Guanidine and its salts have a twofold action. First, it has a toxic effect causing muscle spasm with an increased blood pressure; second, it lowers blood sugar. According to the work of Barksdale⁶ the hypertension is due to a hypertonicity of the smooth muscle of the blood vessels; but Major⁷ is of the opinion that this hypertension is due to a neutralization of the effect of guanidine, either on the nerve endings in the smooth muscle of the blood vessels or on the smooth muscle itself; this action is peripheral rather than central.

Frank with the assistance of Heyn⁸ attempted to produce a guanidine compound synthetically which was devoid of its toxicity. He made use of the work of Von Kossel⁴ who prepared synthetically a guanidine derivative, guanidinobuthylamin or aminobuthylenguanidine. This he called Agmatin, the formula being



Agmatin contrary to guanidine produces in small doses a lowering of blood sugar without producing cramp-like or toxic symptoms. In these experiments 0.08 to 0.1 grams per kilogram body weight were used. An increase in the dosage produces hyperglycemia, then a muscle cramp stage is obtained, and finally a hypoglycemic condition. This cramp-like stage is lost when a methyl group is added making the product aminopenthyllenguanidine. By altering a CH₂ chain (by lengthening it) small doses produce a lowering of the blood sugar without the cramp effect. This preparation is called Synthalin. It is dekadiguanidine.



This new synthetic product, synthalin, is 100 times stronger than guanidine. It has approximately the same glucose equivalent that insulin has. One milligram of synthalin has a glucose equivalent of approximately 1.2 grams sugar, whereas insulin has a glucose equivalent of 1.5 grams. One milligram of insulin is about 75 to 100 times stronger than synthalin. One unit of insulin is equivalent to about 1/100 milligrams of insulin preparation; in other words, 1 unit of insulin is approximately equivalent to 1 milligram of synthalin. In normal dogs synthalin produced hypoglycemia accompanied by gastro-intestinal disturbances which were relieved by glucose. When given to depancreatized dogs similar results were obtained. It was further shown in studying the arterial and venous blood that synthalin probably had some action in the metabolizing of carbohydrates.

Certain investigators⁹ attempted to prove that synthalin reduced blood sugar by muscle spasm rather than by an oxidation process in the viscera. They therefore carried out certain experiments wherein they analyzed arterial and venous blood from the same extremity and found that after the administration of synthalin there was a decrease in the sugar content of both, although a much greater decrease in the venous blood, proving to their satisfaction that some sugar was either oxidized or stored in these muscles.

The action of synthalin is probably similar to that of insulin, yet it is not identical. Its specific action is as yet unknown. The mother substance is guanidine, and since guanidine is a toxin which causes muscle spasm, therefore it is logical to assume that this product produces muscle spasm which in turn causes more sugar to be metabolized. However, Minkowski¹⁰ was unable to prove this reaction with the string galvanometer. Umber, on the other hand, is of the opinion that the action of guanidine is of central origin, probably in the optic thalamus.

Quite recently Junkmann¹¹ has reported the pharmacological action of synthalin in experimental animals. He finds that the action of synthalin is just the opposite to that of guanidine. While guanidine increases blood pressure, synthalin has quite the opposite reaction as it reduces blood pressure by peripheral dilatation. Synthalin, too, does not produce the fibrillary twitchings obtained with guanidine. He further noted that in his experiments it possessed a curare-like action; that is, paralysis of the nerve endings in the muscle and of the respiratory apparatus. This may account for Minkowski's negative findings with the galvanometer for muscle contraction.

According to the recent work of Hetényi,¹²

synthalin has not the same action as insulin. He found that after the administration of insulin there is a rapid reduction of sugar in the blood followed by an immediate rapid rise of sugar in the liver and, somewhat later, a definite reduction of liver sugar. This reaction he calls a "hypoglycemic complex." Now if adrenalin were given the previous reaction would be reversed, that is, at first there would be a diminution of liver sugar and later a hyperglycemia—just the opposite result is obtained when no adrenalin is used. He assumes that an overdose of insulin causes the "hypoglycemic complex" through "stoppage of liver cell function" which is a direct cellular action. Now after the continuous use of synthalin for several days there was obtained a visceral sugar reduction and at the height of synthalin therapy, immediately before death, there was no sugar increase in the liver—a situation quite unlike that obtained with insulin. He concludes that with synthalin there is no relationship between "stoppage of liver cell function" and the hypoglycemic complex.

Dale^{18 19} corroborated Hetényi's findings, in that synthalin failed to produce any storage of glycogen in the livers of animals treated with synthalin, although it did reduce sugar in the blood. In an animal suffering from hypoglycemia due to repeated administration of insulin, injections of adrenalin will always bring about immediate liberation of sugar from the glycogen stored in the tissues. Such is not the case when synthalin is used. He also added that it was possible that the glycogen was simply broken up into lactic acid.

In perfusion experiments on isolated limbs there was no deposition of glycogen in the muscles although the blood sugar disappeared under synthalin.

Blatherwick and his coworkers²⁰ conclude that the action of synthalin is similar to that of hydrazine. They think that the hypoglycemia produced by synthalin may be due to a combination of two processes. One of these resembles the action of insulin and the other that of hydrazine. The latter appears to cause hypoglycemia by injuring the liver and thus preventing normal glyconeogenesis; that is the transformation of noncarbohydrate substances to glucose. Insulin has no such inhibiting effect.

Synthalin has the same cumulative effect as the other guanidine compounds which anchor themselves to their substrate, and in large doses are toxic to the liver cells. Adler,¹³ though, is of the opinion that synthalin produces spasm of the biliary ducts rather than a direct toxic effect on the liver cells. The action of synthalin is slower than insulin; it is effective by oral ad-

ministration; it abolishes glycosuria; it causes ketones to disappear from the urine and blood; it maintains a low level of blood sugar; it relieves cardinal symptoms; and it causes alkali reserve to return to normal.

Its action, however, is not constant and occasionally after discontinuing it glycosuria is increased. Synthalin may be used in connection with insulin thus permitting the dosage of insulin to be decreased. Also it can be used to good advantage in insulin refractory cases, although Falta¹⁴ does not believe this. It seems to be more effective in adults and in the aged rather than in juveniles¹⁵. Too, its use is to be recommended in the mild and in the moderately severe cases.

It does not seem to have such a marked effect on water retention as has insulin. Occasionally after lengthy administration there seems to be an increase of bile pigments in the blood and urine, which is suggestive of either liver damage or blood destruction, although in our series we found no increase of bile pigments either in the blood or in the urine.

In view of the fact that synthalin is cumulative and as such becomes toxic, disturbing the renal and gastro-intestinal systems, certain investigators have expressed an unfavorable opinion of its use. For this very reason—that is, its cumulative feature—we in our series have not followed Frank's program of daily administration; but we have given it on alternate days and so we feel we have been able to eliminate for the most part these accompanying disturbances, although one of our cases received synthalin for 60 consecutive days without any symptoms of toxicity.

Although we are fully aware of the adverse reports in the foreign literature¹⁶ we feel from the personal experiences of one of us (A.C.C.) in European clinics and the results obtained in our twelve cases that at this time a preliminary report is warranted.

This is a preliminary report of adult cases of moderately severe diabetes who have been under our observation for a period of over six months. In all of these cases except one we have obtained satisfactory results with synthalin therapy. We shall give in detail some typical cases of our series, one showing a substitution of synthalin for insulin; the other case had no previous insulin therapy.

REPORT OF CASES

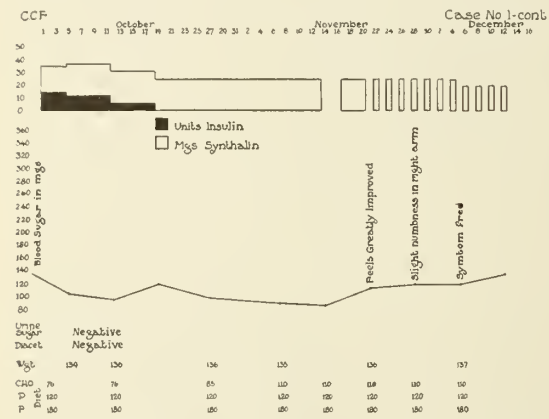
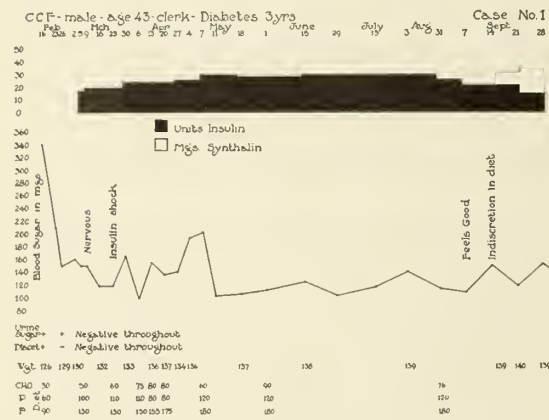
Case 1: C. C. F. Age 43, male. C. C. Polyuria, loss of weight, nervousness and fatigue. H. P. I. Began three years ago with loss of weight and weakness. He has lost 45 lbs. during this period. P. M. H. No diseases. F. H. Married, no children, wife never pregnant. S. H. Smokes 6-10 cigars daily; is a clerk in a confectionary store and has not worked since his weakness began.

Physical examination. Male of medium height, asthenic type, color fair, texture of skin good but shows evidence of loss of weight. Teeth all removed. Tonsils septic. Thyroid enlarged with increased density of gland. Heart normal. B. P. 120/80. Lungs, abdomen and reflexes normal.

Laboratory tests. Blood count normal. Urine, positive sugar and diacetic acid, negative acetone and negative urobilinogen. Blood sugar, 340 mgms. per c.c. blood. Wassermann negative. Metabolism normal.

On a balanced and weighed diet he responded well to insulin therapy and he gained weight; but he showed hyperglycemia at times when insulin was decreased. Too, we noticed that his sugar tolerance was increased and for the last three months he has had only synthalin medication. His blood sugar has been normal during this time. He is symptom free and feels better on synthalin therapy than when he was getting insulin injections. Below is his chart showing how synthalin was introduced in his regime.

CHART NO. 1



Case 2. F. E. D. Age 67, male. C. C. Polyuria, polydipsia, fatigue, nervousness, backache and general weakness. H. P. I. Began 3 years ago when he fell and injured his spine. Since then above symptoms have been present in some degree or other. Nocturia 2-3 times with increased amount of urinary output. Thirst quite marked. P. M. H. Lesion on penis 25 years ago. F. H. Married, 3 children; wife had no miscarriages. S. H. Traveling salesman, habits good.

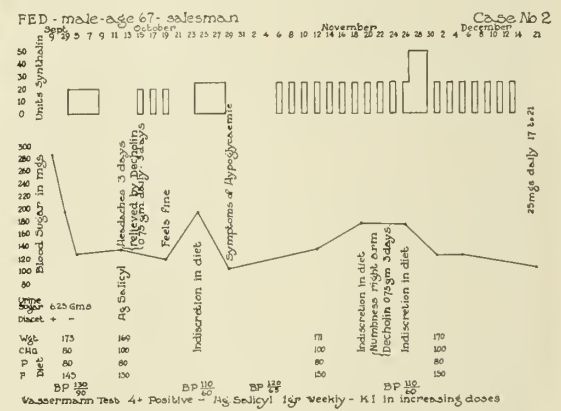
Physical examination. Elderly man showing pallor, loss of weight and unsteadiness in his gait. Generalized sclerosis of vascular system. Eyes re-

act sluggishly to light and in accommodation. Teeth removed. Heart and lungs normal. Blood pressure 130/90. Abdomen pendulous; enlarged, firm liver. Patellar reflex diminished, no anesthesia or parasthesia, suggestion of a Rhombert. Spine: alteration of alignment of second and third lumbar vertebrae.

Laboratory. Blood count normal. Urine, sugar 6.25 grams and positive diacetic; urobilinogen negative. Wassermann 4 plus.

He was put on a diet and given synthalin by mouth and within three days his blood sugar became normal. Headaches developed after five days of continuous medication with synthalin. Synthalin was stopped and a combination of biliary salts given. Headaches then disappeared. After being under observation for two weeks antiluetic treatment was instituted. He responded well on synthalin therapy which was now given on alternate days. At present he is symptom free and he has been able to resume his work. At another time in his course of treatment he developed loss of appetite and nervousness which too responded to the administration of biliary salts. Below is his chart.

CHART NO. 2.



The other ten cases in our series are similar in results as the two just described.

CONCLUSIONS

We feel that synthalin has a definite place in the treatment of diabetes mellitus and its kindred disorders, as it does reduce blood sugar and eliminate glycosuria, that it diminishes acidosis, and that it clears up clinical symptoms. Its action is slower, not as constant, but is more lasting than insulin.

We feel that it should be given a fair trial in some surgical conditions, such as Raynaud's and Buerger's disease, furunculosis and probably some cases of hyperthyroidism. At this time our report is only on moderately severe adult diabetes mellitus.

The ease of administration no doubt will be a boon to sufferers of diabetes. Surely in most mild and moderately severe diabetes and in insulin refractory cases, as well as in elderly individuals and adults, synthalin may replace insulin. We feel that if small doses are given

every other day, instead of the daily use as recommended by Frank and his coworkers, we can reduce the cumulative effect with its concomitant gastro-intestinal disturbances. No frank tetanic symptoms developed in any of our patients as has recently been reported,¹⁷ although two of them complained of cramps and numbness in their arms which entirely disappeared within a week even though synthalin was continued. No increased urobilinogen was found in any case treated in this manner. We did not check up on the accounts of methylguanidine in the blood. In all our cases a definite lowering of blood pressure was noted and we hope at some later date to report some cases of hypertension treated with synthalin. At this time we are unable to say whether or not sugar tolerance is increased, although we are of the opinion that it might have such an effect as one of our cases (Case 1) showed a definite increase in sugar tolerance.

724 Argyle Building.

BIBLIOGRAPHY

1. Underhill, F. P., and Blatherwick, N. R.: The Influence of Thyreoparathyroidectomy upon the Sugar Content of Blood and Glycogen Content of the Liver, *J. Biol. Chem.* **18**:87-90, 1914.
2. Watanabe, C. K.: Studies in the Metabolic Changes Induced by Administration of Guanidine, *J. Biol. Chem.* **33**:253-264, 1918.
3. Paton, C. Noel, and Findley, L.: Toxic Substance of Protein Origin in Blood and Urine in Parathyroidectomy. *Quart. J. Exper. Physiol.* **10**:203, 1916.
4. Kossel, A.: Ueber das Agmatin, *Ztschr. f. physiol. Chem.* **66**:257-261, 1910; Synthese des Agmatins, *Ztschr. f. Physiol. Chem.* **68**:170-172, 1912.
5. Frank, E.; Nothmann, M., and Wagner, A.: Ueber synthetisch dargestellte Körper mit insulinartiger Wirkung auf den normalen und Diabetischen Organismus, *Klin. Wehnschr.* **5**:2100-2107 (Nov. 5) 1926; Die Synthalinbehandlung des Diabetes mellitus, *Deutsche med. Wehnschr.* **52**:2067-2070 (Dec. 3) 1926; 2107-2108 (Dec. 10) 1926.
6. Barksdale, I. S.: The Effect of Dimethyl Guanidine Sulfate on the Capillaries, *South. M. J.* **18**:707, 1925.
7. Major, R. H.: Studies on the Effect of Hepatic Extract upon Experimental Hypertension Produced by Guanidine Compound, *Bull. Johns Hopkins Hosp.* **39**:222-228, 1926.
8. Heyn (Footnote 5).
9. Rahinowitch, I. M.: Observations on the Use of Synthalin in the Treatment of Diabetes Mellitus, *Canad. M. A. J.* **17**:901-904 (August) 1927.
10. Minkowski, O.: Synthetische Insulinähnliche Wirkende Substanzen, *Klin. Wehnschr.* **5**:2107 (Nov. 5) 1926.
11. Junkmann, Karl: Ueber Synthalin, *Naunyn-Schmiedeberg, Arch. f. exper. Path. u. Pharmacol.* **122**:184-194, 1927.
12. Hetényi, G.: Mechanismus der Synthalinwirkung, *Klin. Wehnschr.* **6**:2194 (Nov. 12) 1927.
13. Adler, A.: Ueber die Nebenwirkungen des Synthalins und ihre Beseitigung, *Klin. Wehnschr.* **6**:493 (March 12) 1927.
14. Falta, W.: Erfahrungen mit Synthalin, *Klin. Wehnschr.* **6**:429 (Feb. 26) 1927; Personal communication.
15. Freise, R., and Emecke, F.: Synthalin, *Monatsch. f. Kinderh.* **35**:537-546 (June) 1927; Priesel, R., and Wagner, R.: Synthalin, *Klin. Wehnschr.* **6**:884 (May 7) 1927.
16. Jansen, W. H., and Baur, H.: Klinische Erfahrungen mit Synthalin nebst Bemerkungen zum Mechanismus der Synthalinwirkung, *München. med. Wehnschr.* **74**:441-445 (March 18) 1927; Editorial: The Treatment of Diabetes, *Journal-Lancet* **47**:509 (Sept. 3) 1927.
17. Perémy, G.: Tetaniforme Krämpfe Während der Synthalinbehandlung, *Klin. Wehnschr.* **6**:2100 (Oct. 29) 1927.
18. Dale, H. H.: Discussion on report of Therapeutic and Pharmacological Section of the Royal Society of Medicine on Action of Synthalin, *Brit. M. J.* **2**:1141 (Dec. 17) 1927.
19. Annotation, Action on Synthalin, *Lancet.* **2**:1356 (Dec. 24) 1927.
20. Blatherwick, N. R.; Sahyun, M., and Hill, E.: Some Effects of Synthalin on Metabolism, *J. Biol. Chem.* **75**:671-683 (Dec.) 1927.

OBSERVATION

J. F. CHANDLER, M.D.

OREGON, MO.

A health officer, in going about his work, as well as one in any other calling, would do well to pluck the flowers along the pathway—to gather in many of the good things presented and place them in store for use in the future. Be progressive.

We are told: "True progress consists in bringing forward from yesterday the good of yesterday, and adding to the store of today." How are we to do this if we fail to make use of our opportunity to grasp the ideas that come to us from time to time as we visit the homes where duty calls us? To be able to make use of every opportunity it is necessary to be a keen observer.

By careful observation the fact becomes fixed more vividly in the mind, the work becomes more interesting, and the incentive to take hold is greater. As we train our sight to take in our surroundings our mental horizon enlarges, and through continued careful observation we see much that with less careful scrutiny would go unnoticed and unconserved for the advancement of our knowledge along the chosen line.

It is well at the end of each day to ask ourselves and be able to reply intelligently to the following question: "What have I observed this day, and what have I learned from my observation?" as well as to record mentally what has been accomplished.

We fail to advance the cause of public health as we should unless we give careful attention to our environment and make use of the things seen which may improve sanitation and all hygienic measures necessary to better conditions in the homes we visit.

If we fail to discover what is needful how are we to know the changes that should be brought about? To be able to do so requires that we be ever alert, awake, to much that is transpiring in our little domain so that we may be able to correct any faulty condition existing.

With knowledge of the environment of our people and acquaintance and familiarity with the appearance of the pupils in the schools we visit, we are better enabled to direct them to more helpful ways of living, when necessary, and to prevent much that may bring on disease; to give advice to those who may be suffering from poor health as a result of bad habits, unsuitable diet, etc.

That we may be enabled to accomplish all that we should in public health work it is needful to cultivate that intimacy which helps us to see things as they exist—to take a common sense view of the matter. Common sense, says

Stowe, is the knack of seeing things as they are, and doing them as they ought to be done. To see them as they are it is necessary that we be ever watchful of all that passes before our view. This comes by cultivating the habit of keenly observing all that transpires during our routine. Knowledge gained by this means helps in the handling of many a delicate situation and in getting others to cooperate in the work at hand.

By diligent study and careful observation as we go about our work we acquire knowledge of many things practical which cannot be learned from books or lectures and do not come with our appointment to office. They must come through association with the public in line of duty.

This is especially true with the health officer in the field. He is frequently called on to decide clinically questions which should be decided in the laboratory; to come to a decision without the paraphernalia commonly found in a well equipped country office, and it is up to him to take action at once. He should be able to do this without being burdened by a lot of machinery, such as made use of by many technicians in arriving at a conclusion.

The art of observation is being neglected too largely in many of the colleges where the students are being prepared for public health work and the practice of medicine. They are being taught to depend largely on instruments of precision in making a diagnosis. I would not decry the use of instruments in arriving at a diagnosis—we cannot have too much information—yet as medical men, and men in public health work, we are frequently caught without instruments and have to depend on our wits.

Again, it is not practical to carry around a load of iron when travel is difficult, owing to rough and muddy roads and much territory to cover, not taking into consideration the time required in setting up a laboratory and completing our experiments. The laymen think we should know our stuff; the lawyer takes his time to look things up, but the doctor is expected to know.

We are aware that many surgeons will not attempt to set a fracture or reduce a dislocation without having an X-ray picture of the injured part. Having access to an X-ray machine, they depend on the findings, and a knowledge of topographical anatomy, contour of the body, etc., is not acquired as fully as it should be. Having given but little attention to the individual as a whole—how he looks as a finished product—they would be handicapped to a large degree if called upon to treat an individual out in the open, far from an office or hospital.

While the health officer in the field may in no way be compared to the surgeon in his work, the fact remains that if he delays in making a diagnosis, neglects to act, others may be exposed to contagion and the epidemic gain headway.

It means simply this: Be a diagnostician and ever ready to recognize the symptoms of disease as they commonly appear in clinical work that you may, as is possible, diagnose the common contagious diseases as well as discover those who suffer from fatigue, lack of nourishment through scarcity of food or as a result of improper preparation of the food supplied. A case sometimes comes to the health officer's notice of a person unable to care for himself, living in insanitary surroundings and failing to receive all that may be rightfully his, owing to neglect or shortsightedness on the part of those on whom he depends.

By discovering these things and calling them to the attention of the ones responsible therefor in a diplomatic way, you may avoid arousing resentment on the part of the person responsible and bring about the changes needed.

A health officer should acquire knowledge of the things commonly made use of in conducting his work as well as that he obtains from his books; that he may do so it is needful that he be attentive to his duties and "always on the lookout" for the things that *may* happen, as well as observant of all that actually transpires, for his own profit and that he may pass on his observations for the good of others.

PRACTICAL OBSTETRICS

WENZEL C. GAYLER, M.D.

ST. LOUIS

Certain very definite changes have taken place in obstetrical customs in the last ten years or so, and not the least important is the popularization of the rectal examination and the resulting avoidance of the vaginal examination.

Vaginal examinations we have always had. Or rather we have had them since human intelligence suggested that one person try to help another during delivery. Since the time of Semmelweis we have attempted to clean our hands for this examination. In other words, we have been aware of the fact that we carried infection to the woman. The introduction of gloves for surgical purposes about thirty years ago brought the next advance, the vaginal examination with sterile gloves. The

gloves also made possible the next advance, the rectal examination during labor.

During late pregnancy all structures of the pelvis are relaxed and softened. This includes the sphincter muscles as well as the rectal and vaginal mucosa. The rectal examination should not be painful, nor does it give less information than the vaginal examination. Internal examination during labor attempts to establish the following facts: (1) The contour of the bony pelvis; (2) position and location of head; (3) condition of cervix and membranes. These facts can be very nicely established by rectal examination as well as by vaginal, after one has made about 25 rectal, and immediately checked up on the findings by an aseptic vaginal examination. Our technic is not perfect. The rectal examination is probably not the last word; still it seems to be a step in advance and all types of puerperal infection have become less common since its adoption.

The induction of labor at or after term, merely as a means of preventing protracted and difficult labor, has become an established practice. This does not include pre-eclamptic conditions, or narrow pelvis, in which cases induction has been practiced for a long time. It is now customary to induce labor when the child has arrived at a size that threatens a dangerous delivery for mother or child. The quinine-castor oil method is not satisfactory, nor is the pituitary extract much help. The old stand-by is the rubber bag.

We have a better understanding of the use of oxytocics than we had ten years ago. Pituitary extracts are valuable, but are being used with more caution than formerly. The position of ergot remains unchanged. Quinine however, seems not to be fully appreciated by the obstetrician of today. I am entirely convinced that if we had a concentrated quinine solution which could be injected intermuscularly without pain, the use of pituitary extracts would soon stop. The custom of using thirty grains of quinine has given the drug a bad name. Ten grains seems to be all that is necessary to determine if a woman is in labor or not, and fifteen grains should probably be the maximum dose.

The old fashioned high forceps have been almost entirely discarded in favor of version, Cesaran and the Kielland forceps. The repopularization of podalic version has been a great help in our work, but it has been overdone.

While the Cesaran delivery has been abused it remains a very easy and satisfactory method of delivery.

The Kielland forceps is a very wonderful help in certain selected cases. When labor comes to a standstill with the head in the transverse position, gentle traction on the Kielland, without a twisting motion, will almost immediately bring the sagittal suture into the anteroposterior position. It is my custom, as soon as the change of position of the head has been accomplished, to remove the Kielland forceps and finish the delivery with the ordinary Naegele forceps.

Another function of the Kielland forceps is to confirm our diagnosis, and I think this idea is original with me. Let us assume that we have arrested labor with the head in the transverse position. The woman is fat, or for some other reason we cannot decide whether we have a left or a right presentation. It has been customary to force the hand into the pelvis and to palpate the ear of the fetus. This seems a crude procedure. The anterior blade of the Kielland forceps is applied with extreme ease. It almost falls into place, *if our diagnosis is correct*. If there is any unexpected resistance to the introduction of the anterior blade, we have made a mistake in diagnosis and have mistaken the large for the small fontanel.

605 Wall Building.

STUDIES IN EPIDEMIOLOGY OF RHEUMATIC FEVER

David Seegal and Beatrice Carrier Seegal, Boston (*Journal A. M. A.*, July 2, 1927), endeavored to determine the annual incidence of rheumatic fever over a significant period of years in a representative group of hospitals in the United States, its possessions, and Canada. A group of ninety-four general hospitals were selected from the American Medical Directory as the source of the data. In choosing the series, hospitals of long standing, with more than 200 beds and with teaching affiliations, were given the preference. Institutions devoted primarily to the treatment of tuberculosis, mental diseases, chronic invalids and the like were excluded. Of ninety-four requests for information, thirty-eight, or 40.5 per cent., responded with data which were utilized in the survey. In twelve out of fifteen hospitals supplying data for an adequate period of time, the average annual frequency of rheumatic fever previous to 1918 is greater than that subsequent to 1918. Since the year 1918 the disease has not shown a uniform tendency to decrease in frequency in the hospitals of this series. The figures for the final two years of the study, 1924 and 1925, demonstrate an increased rate of rheumatic fever in some of the hospitals of the series.

THE JOURNAL

OF THE

Missouri State Medical Association

MAY, 1928

EDITORIALS

THE COLUMBIA MEETING— MAY 14, 15, 16, 17, 1928

The Boone County Medical Society, who will be hosts to our Association at the Seventy-First Annual Meeting May 14-17, are preparing to entertain an unusually large number of members, for the interest in this session is widespread and we anticipate an unusually large registration. The first day of the meeting, Monday, May 14, will be devoted entirely to the activities of the House of Delegates and the Council. The scientific sessions begin at 8:30 a. m. on Tuesday, May 15. The meetings will be held in the Missouri Methodist Church, Ninth and Locust Streets. All members are requested to bring their pocket cards to facilitate registration. Delegates should deposit their credentials with the registration clerk.

The guests of the Association are, Dr. J. C. Bloodgood, Associate Professor of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore; Dr. Thomas S. Cullen, Professor of Clinical Gynecology, Johns Hopkins University School of Medicine, Baltimore; Dr. Elliott P. Joslin, Clinical Professor of Medicine, Harvard University Medical School, Boston; Dr. Frank Smithies, Professor of Medicine, University of Illinois College of Medicine, Chicago; Dr. F. M. Pottenger, of the Pottenger Tuberculosis Sanatorium, Monrovia, California.

The scientific program contains forty-three papers on a wide diversity of subjects that will certainly be of interest to every member of the Association. The four symposiums are especially attractive, one on backache, another on headache, one on arthritides and one on skin diseases. The contributions to these symposiums are from our own members who have had wide experience in treating these diseases.

Dr. Dudley A. Robnett, Columbia, is chairman of the local committee on arrangements and will be glad to hear from members who may desire arrangements for rooms if they have been unable to reserve accommodations at the hotels. With the cooperation of the Chamber of Commerce and citizens of Columbia a large number of rooms have been provided in private homes.

CANCER CONTROL

The success which accompanied the recent campaign of the American Society for the Control of Cancer for a million dollar endowment fund has stimulated not only the directors and members of that organization but everyone interested in cancer to renewed energy toward research into the cause of cancer and better therapy, toward the improvement of methods of treatment, and toward the care of the hopeless case.

Cancer claims more victims annually than do railroad accidents, automobile injuries, accidents in industrial plants, suicides and murders all combined. In the registration area of the United States, approximately 100,000 people die annually from cancer. Cancer now ranks fourth as a cause of death, heart disease, kidney disease and pneumonia alone surpassing it. One in five women, one in eight men past forty-five die of cancer. So it is easy to understand why cancer is a subject of widespread interest and importance to the entire population.

Of the 100,000 deaths annually from cancer in the United States probably one-half could be prevented through proper cooperation between patient and doctor. Such cooperation can be obtained only by constantly informing the public as to early signs and symptoms which might be cancer, and by an appreciation of the possible significance of these early signs and symptoms by every practicing physician. Since cancer is, at least partially, a preventable disease it has begun to be recognized as of special interest to state and city health departments.

The work of the American Society for the Control of Cancer is today largely educational. Forty-eight states now have more or less active state committees which function under state chairmen. The state legislature of Massachusetts has appropriated \$80,000 for the purchase and maintenance of a state cancer hospital, and \$25,000 for cancer clinics in various centers throughout the state. Pennsylvania has an active state cancer commission doing valuable work along educational and statistical lines. North Carolina, Michigan, Illinois, Oregon, California are all alive to the importance of this work. Missouri is fortunate in the possession of an active committee composed of laymen and physicians which has through a series of years conducted cancer educational campaigns. These campaigns have been cited as worthy examples to be emulated by other communities.

This year the committee has designated May 13 to 20 as "Cancer Week." These dates include the meeting of the Missouri State Medical Association at Columbia and an important

part of the cancer control program includes a meeting of the chairmen who have been appointed in each county to be held at Columbia, Thursday, May 17. It is expected that Dr. Joseph Colt Bloodgood will lend his presence and counsel and all county chairmen should avail themselves of the opportunity to engage in a free discussion of their local problems in order that the state of Missouri, as a whole, through the activities of its physicians, may be cited as an example to the nation of what may be done through intelligent, coordinated effort toward the control of the most malignant disease of man—cancer.

THE HOSPITAL REGISTER OF THE A. M. A.

Exhaustive data in regard to 6807 hospitals was compiled and correlated in the first edition of the Hospital Register, published with the March 24 issue of *The Journal of the American Medical Association*. In addition, information was gathered on 462 hospitals, 11,379 beds, which were not admitted to the register for sufficient reasons, such as control by an incompetent or an impostor, exploitation of cancer, consumption and other "cures," and the carrying on of criminal and other unethical practices. A glance over the voluminous tabulations shows that Missouri was thirteenth in the total number of hospitals registered, third in the number of hospitals refused registry, and—if this be an index of modernity in hospital practice—fourteenth in the number of hospitals with physical therapy departments.

Nationally, the survey shows that only 178 hospitals are limited to maternity work, while nine-tenths of the 41,961 bassinets in all the general and special hospitals of the country are in general hospitals. Five years ago there were 262 maternity hospitals. Industrial hospitals have increased from 70 to 168 in the five years, and convalescent and rest institutions have increased from 137 to 159. Isolation hospitals have decreased from 111 to 98, but the Association's Council on Medical Education and Hospitals notes this as "increasing in effectiveness and dwindling in numbers," and "a happy contrast between the pest houses of former years and the present well cared for isolation hospital."

Children's hospitals have decreased from 81 to 58, indicating that "the present tendency in specialization is stronger in the direction of separating the specialties on a clinical basis rather than on a basis of age or sex." Eye, ear, nose and throat hospitals have increased from 58 to 77. Orthopedic hospitals show the largest growth in the five-year period, increasing from 37 to 62, largely because of the de-

velopment of special methods and facilities for orthopedic cases. Skin and cancer hospitals have decreased from 32 to 16, "directly opposite to the increasing interest in cancer, which would presage an increase."

"The past two decades," it is reported, "have seen a tremendous increase in medical teaching in government hospitals, including federal, state and county institutions. In addition to the fact that all hospitals are potentially and many of them actually educational institutions, a number of states have deliberately entered the field of general hospitals by building large plants, usually in connection with state universities, to serve the double purpose of caring for the sick and injured from all over the state and to afford teaching material for the medical department of the state university. The same has been done by cities and by counties." The Council on Medical Education and Hospitals has approved for intern training twenty federal hospitals, including five army, seven navy and seven marine hospitals and the Freedman's Hospital conducted by the Department of the Interior in Washington, D. C.

The total number of nursing schools in the United States increased from 2155 to 2286 in the last year while the number of hospitals without nurses' training schools decreased from 5261 to 4521. Only seven states of the 48 show no increase in the number of training schools. Training schools in hospitals considered unethical increased from 38 to 48, but there was a decrease in the approval of such schools by state boards of examiners. In 1926 eighteen of them were reported approved but in 1927 there were only twelve, and six of the twelve were in one state, Illinois.

Altogether 159 hospitals were registered in Missouri and 29 were refused registration. Of the registered hospitals 18 were approved for general internship by the Council on Medical Education and Hospitals and eleven were approved for residency in a specialty for graduates who have already had a general internship or its equivalent in practice.

Those approved for internship include the Kansas City General Hospital, Research Hospital, St. Luke's Hospital, St. Joseph's Hospital and St. Mary's Hospital in Kansas City; Missouri Methodist Hospital in St. Joseph; Alexian Brothers' Hospital, Barnes Hospital (for special residency also), Christian Hospital, Evangelical Deaconess Home and Hospital, Jewish Hospital (for special residency also), Missouri Baptist Sanitarium (for special residency also), St. John's Hospital, St. Louis City Hospitals No. 1 and No. 2 (for special residency also), St. Luke's Hospital (for special residency also), and St. Mary's Hospital and St. Mary's Infirmary in St. Louis. Approved only

for special resident work after internship or its equivalent are the State Hospital at Farmington and, in St. Louis, Isolation Hospital, City Sanitarium, Children's Hospital and Shriners' Hospital for Crippled Children.

"The fact has been lamented," states the report, "that during recent years laboratory work has fallen largely into the hands of lay technicians and become the toy of persons who have a purely commercial point of view and little training for the work.

"Some of the organizations of pathologists, bacteriologists and chemists working alone undertook to investigate and to standardize the practice of clinical pathology, but the efforts of these organizations working single-handed were of little or no avail except to emphasize the enormosity of the task and the necessity for cooperation.

"In 1923 three committees representing the American Chemical Society, the American Association of Pathologists and Bacteriologists and the Council on Medical Education and Hospitals were appointed. The joint committee voted that the work be conducted by the Council on Medical Education and Hospitals on principles established by the joint committee, known as the 'Essentials of an Approved Clinical Laboratory.'

"To assist in giving fair consideration to each application for approval, a strong committee of 120 laboratory experts was formed covering every state or section of the country.

"At present, of the 354 laboratories which have reported, 160, after careful investigation, have been placed on the approved list, and other applications for approval are constantly being received.

"The spirit of this movement is constructive. Any one who knows the condition of the laboratory field at the time this survey was begun would not expect telling or spectacular results to be shown by this time; nevertheless, there are ample reasons for believing that actual improvements are being made: 1. A number of laboratories formerly run by technicians and only nominally under "medical" directors have come under the ownership and actual control of clinical pathologists of high professional standing and ripe experience. 2. A number of laboratories under the control of technicians have gone out of business. 3. There is an increased demand for pathologists to man the clinical laboratories of the country. 4. The feeling of unsteadiness indicated in the discussions of a few years ago has subsided to a considerable degree, and there is a more hopeful attitude on the part of the clinical pathologists themselves."

The approved list of clinical laboratories in Missouri follows:

Kansas City—

Duncan Laboratories, Argyle Bldg. Ralph E. Duncan, Director.

Laboratory of Clinical Pathology, Argyle Bldg. Frank J. Hall, Director.

St. Louis—

Clinical Laboratory of Dr. George Ives, 3720 Washington Blvd.

Gradwohl Laboratories, 3514 Lucas Ave. R. B. H. Gradwohl, Director.

Dr. C. L. Klenk's Pathological and Bacteriological Laboratory, Metropolitan Bldg.

Laboratory of Dr. Rudolph Buhman, 537 N. Grand Blvd.

Laboratory of Dr. D. L. Harris, Metropolitan Bldg.

National Pathological Laboratory, 607 N. Grand Blvd. Ralph L. Thompson, Director. Springfield—

Dr. Murray C. Stone's Laboratory, Woodruff Bldg.

BARNES HOSPITAL SURGICAL CAPACITY DOUBLED

The surgical capacity of Barnes Hospital, St. Louis, is to be doubled by a \$750,000 gift to the Washington University School of Medicine, which will give it teaching facilities in the surgical service of the hospital superior to any other medical school in this country and comparable only to some of the great institutions of Europe. The gift was from Frank C. Rand and Jackson Johnson, St. Louis, respectively president and chairman of the board of the International Shoe Company, and the General Education Board, which dispenses the Rockefeller benefactions to education. The General Education Board gave \$450,000 for the medical school activities, the shoe manufacturers giving \$150,000 each to provide the quarters, a three-story addition to the present three-story pavilion of Barnes Hospital, which is affiliated with the School of Medicine.

It appears also that construction of an eye, ear, nose and throat hospital, for which Mrs. Eliza McMillan, St. Louis, widow of the first chairman of the American Car and Foundry Company board, bequeathed \$1,000,000 thirteen years ago, at last is in prospect. No funds had been provided for the operation of the hospital and construction had waited upon some provision of that sort. The General Education Board is to consider the situation at its meeting this month and it seems likely that it will take favorable action. It customarily requires that public-spirited citizens contribute a third of the total gift in each case, and its philanthropies go only toward education. Unquestionably St. Louis men of wealth, who have signally demonstrated their insight into

the necessities of medical charity and research, will not allow this desirable institution to remain much longer a thing of the future.

The General Education Board has been more generous in its aid to Washington University School of Medicine upon finding that the school meets its research requirements. A gift from this Board is virtually a recognition of achievement for it gives only to schools which have proved in past performance that the funds are used to fullest advantage to the body of medical knowledge and to humanity. Its gift to the surgical department in Washington University was motivated by such contributions to modern surgery as the X-ray method of gallbladder diagnosis; new diagnostic methods in kidney, bladder, pancreatic and stomach diseases; and developments in chest surgery, plastic and oral surgery and surgery of the brain.

The addition to the hospital and teaching facilities of the university will make it the first American school to reach the plane of European institutions in this respect. Two of the new floors will be taken up by wards and the third by low-priced private rooms. The hospital, with the addition, will have 200 surgical beds. The roof will be equipped for heliotherapy.

Both Mr. Rand and Mr. Johnson are trustees of the university, and Mr. Rand is also chairman of the Barnes Hospital board of trustees. His gift was in memory of his brother, Edgar E. Rand, who died in 1907, one of the pioneers who made St. Louis the leading city of the country in the shoe industry. Mr. Johnson dedicated his contribution to his son, Jackson Johnson, Jr., who died overseas with the A. E. F. in 1918. These gifts raise the total benefactions to the medical school in five years to more than \$4,000,000. In virtually each gift the General Education Board has shared with local men of public spirit. Wealth could be devoted to no nobler use, nor to any which more fully will return the biblical "hundred-fold" to all humanity.

A CORRECTION

The statement made in our last issue that the cases of tularemia reported by Drs. McLaughlin and Jones, of the Marine Hospital, St. Louis, were probably the first ones reported from Missouri we find was incorrect. A letter from Dr. John Lavan, Kansas City,* calls attention to his report of five cases treated by him in Kansas City in 1925. These cases are undoubtedly the first ones reported from Missouri and were so acknowledged by Dr. Francis, Surgeon, Hygienic Laboratory of the United States Public Health Service.

* This issue, page 220.

NEWS NOTES

The Missouri University Alumni dinner will be held at the Daniel Boone Tavern, Columbia, Tuesday evening, May 15, at 6:30 p. m.

The Alpha Kappa Kappa Alumni will hold a luncheon for its members at Harris' Cafe, Columbia, Wednesday noon, May 16.

Dr. Frank G. Nifong, President of the Missouri State Medical Association, was the principal speaker at a meeting of the Buchanan County Medical Society at St. Joseph, April 4. He spoke on "The Practice of Medicine Thirty-five Years Ago."

Twenty-three states and two foreign nations were represented in 35 physicians who last month took the spring graduate work at St. Louis Children's Hospital. Two came from Canada and one from Palestine. More than 400 physicians now have taken this work, and in addition the hospital has one man lecturing in Kansas and four holding clinics in North Carolina.

Drs. Claude D. Pickrell and Virgil Loeb, St. Louis, were the guests of the St. Francois County Medical Society at a joint meeting of doctors and dentists held at State Hospital No. 4, Farmington, March 15. Dr. Pickrell addressed the meeting on "Urology," and Dr. Loeb spoke on "Focal Infection." They were sent under the direction of the Postgraduate Committee of the State Association.

Dr. C. H. Neilson, St. Louis, President of the St. Louis Medical Society, has accepted an invitation of the Illinois State Medical Association to deliver the Oration in Medicine at the annual meeting in Chicago, May 10. The subject of Dr. Neilson's oration is "The Problems of the Nervous and Neurotic Patient." On April 17, Dr. Neilson conducted a medical clinic at Lima, Ohio, under the auspices of the Academy of Medicine of Lima and Allen Counties.

The Maltbie Chemical Company, of Newark, New Jersey, has contributed a grant for a research fellowship for the coming year to the Department of Chemistry of Princeton University. The research work to be done under this fellowship will be fundamental in character and will cover certain phases of the chemistry of creosote and creosote compounds. The establishment of this research fellowship is in line with the policy of the Maltbie Chemical Company to extend its research activities and to contribute to a study of the chemistry of important drugs.

Dr. Downey L. Harris, St. Louis, was a guest of the Johns Hopkins University School of Hygiene and Public Health, February 21, and delivered a lecture on "Rabies." Dr. Harris perfected the method which bears his name of preparing rabies vaccine so that it can be administered at the home of the patient.

Surgeons from various cities in the United States gathered at St. Louis, January 30-February 2, and enjoyed a four day clinical meeting arranged by Dr. Evarts A. Graham, Professor of Surgery, Washington University School of Medicine, St. Louis. Clinics on different subjects were held at the Washington University Medical School, Jewish Hospital, Shriners' Hospital for Crippled Children and the Barnard Free Skin and Cancer Hospital.

The chairmen of the county committees on cancer control will meet at a noonday luncheon in Harris' Cafe, Columbia, Thursday, May 17. Dr. Joseph C. Bloodgood, Baltimore, will be a guest at this meeting which will be in charge of Dr. Ellis Fischel, St. Louis, state chairman of the cancer control work in Missouri. Dr. Wm. O. Fischer, Columbia, is chairman of the Boone County cancer committee. County chairmen are requested to write Dr. Fischer of their intention to be present at the luncheon.

A number of St. Louis physicians had opportunity to ride their hobbies to their hearts' content in the opening of an art exhibition last month at the St. Louis Medical Society. There was even a place on the program for that anomalous creature, a doctor without a hobby, as indicated by the topic, "Wanted: A Hobby." It was presented by Dr. J. Ellis Jennings, although Dr. Jennings himself was one of the most prolific exhibitors of paintings.

Many others exhibited their own work in painting, photography, wood carving, sculpture, hammered copper, and so on. Dr. James Moores Ball, whose hobby is history, read a paper on "William and John Hunter, the Eighteenth Century Scotch Anatomists." Exhibitors included Drs. Henry L. Wolfner, Frederick O. Schwartz, Louis Guggenheim, George Richter, Nelson J. Hawley, Willis Hall and John M. Bradley. The exhibition, arranged by a committee headed by Dr. R. B. H. Gradwohl, was intended to stimulate art interest on behalf of a national medical art show to be held annually in New York City. The first exhibition, held there a year ago, disclosed that latent artistic talent was rather the rule than the exception among physicians and that a striking percentage, in particular, had a turn for sculpture.

Dr. Charles R. Buren, assistant physician of State Hospital No. 4, Farmington, was held up April 1 by highwaymen just as he was driving in the entrance of the hospital grounds and relieved of forty dollars in money.

Drs. Alphonse McMahon and Otto J. Wilhelmi, St. Louis, were the guests of the Pettis County Medical Society at Sedalia, March 19. Dr. McMahon's subject was "Heart Disturbances in Thyroid Disease." Dr. Wilhelmi spoke on "Urological Aids for the General Practitioner." These speakers were sent by the Postgraduate Committee of the State Association.

The Missouri Alumni Chapter Phi Beta Pi, national medical fraternity, will have a luncheon at the Columbia Country Club at noon, Wednesday, May 16, during the State Medical meeting. The officers of the chapter are, Hermon S. Major, Kansas City, Archon; Fred W. Bailey, St. Louis, Vice Archon; Dudley A. Robnett, Columbia, Secretary-Treasurer. Dr. Robnett will have charge of arrangements for the meeting. It is expected that a hundred or more Phi Beta Pi will attend the luncheon.

Drs. Wilbur K. Mueller and Harry G. Bristow, St. Louis, were the principal speakers at a meeting of the Howell-Oregon-Texas County Medical Society held at Cabool, March 20. They were delegated by the Committee on Postgraduate Course to attend this meeting and represent the State Medical Association. Dr. Mueller addressed the Society on "X-Ray of the Gallbladder and Its Visualization," and Dr. Bristow spoke on "Gallbladder Drainage; Non-surgical." Twenty-three members were present at the meeting which was followed by a banquet.

A motion to postpone a Supreme Court hearing on the appeal of the state board of health from a circuit court decision, which restored a license to practice to Ray B. Horton, Kansas City, was denied last month and the case was docketed for May 2.

It is nearly three years since the board of health cited Horton to show cause why his license should not be revoked. He was cited in June, 1925, and the license was revoked on May 27, 1927, with evidence that part of the time when Horton had told an examiner he was in medical schools in St. Louis and Kansas City, he actually was practicing as a veterinarian in Purdy, Mo. Horton appealed to the circuit court at St. Louis and last November the court ordered the license restored on the ground that the charges had been altered after Horton's trial began.

Dr. Lee Dorsett, St. Louis, was the guest of the Louisville, Kentucky, Obstetrical Society at Louisville, March 19, and addressed a joint meeting of that Society and the Jefferson County Medical Society on the "Conservative Truth of Eclampsia."

The First International Congress of the Oto-Rhino-Laryngological Society will be held in Copenhagen, Denmark, July 29 to August 1. More than seventy-five specialists representing the United States will sail from New York, July 6. Clinical sessions, with European physicians presiding, will be held in various large cities of France, England, Germany, Norway and Sweden.

A \$15,000 trust fund, to be used by the St. Louis Dental Society in bringing well known lecturers in dentistry to the city from time to time, has been established by Mr. J. B. Schwartz, of the Berry Dental Laboratory, in honor of Dr. Walter M. Berry, founder of the laboratory.

Dr. Berry, who died in Portland, Ore., in 1918, gave Mr. Schwartz his technical training and sold the concern to him in order to re-enter the practice of his profession in 1908. Mr. Schwartz stipulated that the several hundred dollars annual income of the \$15,000 Walter M. Berry Memorial Foundation should be turned over annually to the Dental Society, and that the principal should go to the Society upon his death.

For more than 20 years the Public Health Service has conducted studies of Rocky Mountain spotted fever, a very fatal disease which occurs in certain areas in the western states. During the course of the investigations four workers have lost their lives from the disease, contracted in connection with their official duties.

The most recent worker to lose his life from Rocky Mountain spotted fever is A. Leroy Kerlee, who was employed in the Public Health Service Laboratory at Hamilton, Montana, as a bacteriologist. He was a recent graduate of the Montana State College and had been in the Service since September, 1927. Those who had previously lost their lives in this work are Dr. T. B. McClintic, who died in 1921; W. E. Gettinger, a laboratory assistant who died in 1922; and G. H. Cowan, a field assistant, who died in 1924.

The warfare of science against disease has its hazards. A. Leroy Kerlee made the supreme sacrifice in the battlefield of the laboratory.

Dr. E. H. Skinner, Kansas City, was a guest of the St. Clair County (Illinois) Medical Society, April 5, at a meeting held in East St. Louis and delivered an address on "The Value of Radium in Carcinoma of the Cervix and Menopausal Hemorrhage."

The sixth annual "Presidents' Night" of the Jackson County Medical Society was held around the banquet table at the Kansas City Athletic Club, April 3. Dr. William L. McBride, Kansas City, gave "A Toast to Our Fifty Year Members." Dr. Charles E. Hyndman, St. Louis, chairman of the Defense Committee of the State Medical Association, spoke on "Medical Defense." Dr. Henry Houghton, dean of the University of Iowa School of Medicine, gave an interesting talk on "Medicine in China."

The American Association for the Study of Goiter, consisting of internists, pathologists, radiologists, as well as surgeons, will hold their 5th annual conference on goiter in Denver, Colorado, June 18-20. Several men from foreign countries have signified their intention of attending. Professor Breitner, of the Von Eiselberg Clinic, Vienna, and Professor Albert Kocher, of Berne, Switzerland, have accepted places on the program. Addresses and discussions on Prophylaxis, Medical Treatment, Endemic Goiter and Cretinism from the Public Health Standpoint, are on the program for the first afternoon. All members of the state medical societies are invited to attend. Dr. Gordon S. Fahrni, Winnipeg, Canada, is president and Dr. Kerwin Kinard, Kansas City, is vice president.

Dr. Otto H. Schwarz, St. Louis, returned from Europe last month to take up his duties as head of the department of obstetrics in Washington University School of Medicine and obstetrician in chief of the new St. Louis Maternity Hospital, recently completed with a \$650,000 endowment for a research laboratory, conducted by Washington University, from the General Education Board of the Rockefeller Foundation. The General Education Board also financed the obstetrician's 17 months of study abroad, chiefly in chemistry, pathology and serology, with inspection of women's hospitals in Scotland, England and Germany.

German productiveness in research, Dr. Schwarz believed, was largely explained by the German system of full time professorships, widely followed in this country in recent years. The new Maternity Hospital has three full time and two part time men.

The Illinois State Medical Society extends a special invitation to members of our Association to attend its 78th Annual Meeting at the Stevens Hotel, Chicago, May 8 to 11. Clinics have been arranged at the larger hospitals and at the four Class A medical schools of Chicago. For program and additional information write the secretary, Dr. Harold M. Camp, Monmouth, Illinois.

A comparison of statistics in the annual report of Barnes Hospital in St. Louis showed that the average hospitalization period of patients in 1917 was 19.3 days, but only 14.2 days in 1927. Technical and professional advances and the fact that reluctance of patients to enter a hospital had diminished, and with it the period necessary to restore them after they had entered, were pointed to as probable causes. The number of patients had increased from 2622 for 1917 to 5892 for 1927.

The National Board of Medical Examiners issued two hundred and seventy-two certificates in 1927, this being the number of physicians who passed the Board's examinations during the calendar year. Twenty of the certificates were issued to graduates of the Washington University Medical School.

The certificate of the National Board is now accepted by thirty-seven states including Missouri. Ninety-six graduates of the Washington University Medical School have taken the examination of the Board and twenty-five from the St. Louis University Medical School.

The first annual "Presidents' Night" of the St. Louis Medical Society was auspiciously inaugurated April 10, with Dr. William Allen Pusey, Chicago, president of the American Medical Association in 1924, as the speaker of the evening. A score or more past presidents of the Society were guests of honor at a banquet attended by 150 members and as many guests, and Dr. Charles H. Neilson, President of the Society, presided.

Dr. Pusey spoke vigorously against the invasion of the medical field, in executive capacities, by persons expert in philanthropy and sociology but not in medicine. He deprecated the barring of physicians, "directors of every sort of organization from great corporations to churches," from hospital boards, adding:

"This makes the physician dependent where he ought to be independent. It results, indeed, in putting an inferior estimate upon him. The older the hospital the more aggravated this situation becomes. It is more marked in the

older hospitals than the others in our younger cities like Chicago and St. Louis. It is so marked in older hospitals of older cities that the medical staff position in some of these is as much one of subserviency as if the employes had to punch a clock.

"It now is the accepted policy that physicians shall not be members of the governing boards of hospitals. The American Hospital Association has as one of its standards for hospitals that no physician shall be on the board of directors. Of course, I know the reasons urged for this policy. They are based largely on the assumed jealousy of medical men for each other. In my opinion, they are no more jealous of each other, or of their prerogatives, than other men—than retired capitalists or hospital superintendents, for example.

"In my opinion, we should make it our policy to offer able physicians for directors of our hospitals and try through them to obtain a direct part in the hospital's management. I know this view is heresy, but I am none the less convinced of its soundness for the profession and for hospitals."

The St. Louis Medical Society has joined forces with the Trudeau Club, composed of tuberculosis specialists, in urging a \$2,400,000 bond issue to meet an acute shortage of hospital beds for tuberculosis. The St. Louis Tuberculosis Controller, Dr. Howard H. Bell, points out that the waiting list for Koch Hospital, the one public tuberculosis sanatorium in the city, ranges from 100 to 150, and that in a month the city was able to hospitalize only one tuberculous patient. Sponsors of the movement have been able to demonstrate that the city has considerably outgrown its provision for this vital work, and, indeed, that fact was emphasized in a survey conducted last fall by the American Public Health Association.

Erection and equipment of buildings, along plans laid eight years ago with the advice of some of the best authorities in the country, would be financed by the bond issue. Both the sponsoring organizations decried stopping with halfway measures, temporary buildings, and the like, such as are contemplated in a measure now pending in the Board of Aldermen. The bond issue would provide for additions to the extent of \$1,750,000 at Koch Hospital, \$350,000 at City Hospital No. 1 and \$350,000 at City Hospital No. 2 for negroes.

These funds would take care of permanent and substantial buildings urgently required at Koch Hospital, and also provide pavilions at the two city hospitals to give sanatorium care to advanced cases. Such cases should not be placed in Koch Hospital, the organizations

pointed out, and smallpox cases should be removed from that institution, which should be maintained solely as a tuberculosis sanatorium for the treatment of early and probably amenable cases.

The care of the tuberculous indigent is distinctly a municipal function, as the American Public Health Association made clear, and the city should see that the function is fully performed. It is not fulfilled at present. The tuberculosis controller states that the death rate has risen and is bound to rise further if the situation is not immediately and adequately met. In circumstances like these, to urge physicians to support the special committee of the St. Louis Medical Society appointed to further the bond issue is indeed superfluous. The facts speak for themselves, and in no uncertain terms.

OBITUARY

JAMES ELMORE LOGAN, M.D.

1861-1928

Dr. James E. Logan was born October 16, 1861, in Jessamine County, Kentucky, and died in Kansas City, March 24, 1928. He began his literary education in the University of Kentucky at Lexington and completed it at the Missouri State University. He began his medical studies under the tutorship of his father, Dr. W. G. Logan, and afterwards pursued the courses in the medical department of the Missouri State University and the University Medical College, Kansas City, graduating in 1883. Postgraduate work was taken at Bellevue Hospital Medical College, New York City, where he graduated with honors in 1884. He at once entered general practice in association with his father. Meantime he had taken up the study of laryngology and in 1885 began to devote himself exclusively to this specialty, and was the first in Kansas City to specialize in this specialty and soon became well known and was sought by patients from all parts of the Missouri Valley.

In 1885 he was made lecturer of physiology in the University Medical College under Dr. John H. Duncan and upon Dr. Duncan leaving Kansas City for St. Louis, Dr. Logan succeeded him to the chair of physiology. In 1886 he was called to the position of professor of laryngology and was also elected to membership on the board of trustees of the College. In 1899 he was elected president of the College and served most faithfully and zealously. Ever earnestly devoted to the interests of the College he always excited his best efforts in its be-

half and its most zealous friends accord him preeminent distinction for his great service.

He was an active member of the American Medical Association, the American Laryngological Association, the American Laryngological, Rhinological and Otological Society, the Missouri State Medical Association, an Honor Member of the Jackson County Medical Society, and a member of the Kansas City Academy of Medicine. He served as president of the two national societies of his specialty.

While deeply busied in discharging the exacting professional duties imposed upon him he found time for constant study in the specialty he had adopted for his life work, and his instant knowledge of all successive investigations afforded him an equipment which his professional associates and students regard as unsurpassed.

He took an active interest in local affairs of Kansas City, serving as a member of the city council and the park board for several years. One of the founders of the Kansas City Country Club, serving as president and director, and a member of the Kansas City Club, University Club and Blue Hills Country Club.

Personally Dr. Logan was a polished gentleman who commanded respect and confidence from all who knew him. His funeral was attended by a throng of friends, patients and former associates in the profession who showed the last touch of respect to one so well deserving of admiration and esteem.

Dr. Logan is survived by the widow, who formerly was Miss Helen R. Richards, daughter of John F. Richards, of the Richards-Conover Hardware Company, and two sisters, Mrs. Lena Means and Miss Frances Logan.

DR. GEORGE C. MOSHER,
DR. CALEB A. RITTER,
DR. ELLERY M. HETHERINGTON,
DR. ROBERT T. SLOAN,
DR. JOSEPH S. LICHTENBERG,

Committee on Necrology.

TRIBUTE FROM DR. WYATT

Dr. James E. Logan, Kansas City, spent his early manhood on a farm where he built up the rugged constitution that served him in the days of hard professional work. He was one of the pioneers in the belief of medical specialization and early predicted the division of practice into specialties.

His personality was unusual and he was generally beloved by his enormous clientele and was one of Kansas City's most popular men both as host and guest.

He was unusually proud of the University

Medical College and took the greatest interest in the welfare of its alumni—"his boys," he called them.

He was a clean cut sportsman and fond of all sport including bicycling, football, baseball and golf, and in his later years became a great disciple of Isaac Walton, spending two months of every summer at his beautiful cottage on Lake Milona, in Minnesota. He was an ardent motorist and preferred that mode of travel to any other when practical.

Kansas City was his pride and he predicted, and lived to see, a great city formed of the town he came to in 1881.

He was a man of strong likes and dislikes but just in his dealings whether with enemies or friends. He was careful of his personal health and modest in his habits, feeling that he owed it to his patients to be in the best physical and mental condition possible. He was a hard worker when he worked and played just as hard.

He became extremely interested in the religious side of life about ten years before his death and lived up to his beliefs.

He was naturally sociable, loving his fellow-men and had been president of most of the social clubs and organizations in Kansas City.

He was unusually fond of children and always regretted the fact that his family was not blessed with them.

He was a man of impressive personality and address, a fluent speaker and a versatile thinker. In fact, he was outstanding in any gathering of men in his profession. His personality alone brought a meeting of the American Laryngological, Rhinological and Otological Society to Kansas City, the Society never having before met west of Chicago.

THOMAS E. WYATT.

JOHN C. FALK, M.D.
1863—1928

With the passing of Dr. John C. Falk on March 3, 1928, after thirty-eight years of active practice in his chosen profession, the St. Louis Medical Society and the profession at large has suffered a very great loss. A colleague, a brother, a friend has gone, passing away as quietly as he lived, softly, with the peace of an autumn eve. His work is over, and his rest is earned, for truly he labored well.

To have succeeded well at one thing merits approbation; to have attempted and completed many things merits a greater praise. It fell to the lot of Dr. Falk to receive many responsibilities early in his medical career. That he discharged them well is the common knowledge of the profession. His career was marked by a

characteristic, constructive force dominating all of his activities. In his rather long medical life of thirty-eight years, he took at all times an active part in everything pertaining to the advance of medical science.

Born in Ste. Genevieve, Missouri, January 23, 1863, he graduated from the Philadelphia College of Pharmacy in 1884 with high honors. With this fundamental training as a basis, his zeal for his fellow-men caused him to turn his mind towards the study of medicine as a medium of expression for his desire to serve humanity, so that in 1890 he graduated from the postgraduate course at the old St. Louis Medical College. In 1896 he received his degree of Doctor of Medicine at the Missouri Medical College (now Washington University Medical School).

In the early days this constructive desire took form in the teaching of medical students, and from 1891 to 1894 he served as an instructor in materia medica in the old St. Louis Medical College, and from 1895 until 1900 was professor of therapeutics at the Missouri Medical College. In 1912 he was elected president of the St. Louis College of Pharmacy, a position which he held until 1915, when he was obliged to resign, owing to the press of his private practice. In addition to these positions, he was president of the Medical Society of the City Hospital Alumni, a Fellow of the American Medical Association, and a member of the Missouri State Medical Association, American Pharmaceutical Association and the Missouri Pharmaceutical Association.

Truly it can be said of him that he lived a full life, a life tinged with no regrets. To those of us who knew him well the sense of loss is acute, for to have known him was to love him. His personal magnetism attracted and held all those fortunate enough to come within its sphere of influence. The keynote of his life was service to his fellow-men; not the service engendered by hope of reward; not the service stimulated by the necessity of convention; not the service which cries from the house tops for recognition, but a quiet, tranquil, hidden, often unrewarded service which brings satisfaction and peace, both to him who serves and to him who is served. It was a service prompted by his love of his fellow-men, for to him service and love were synonymous.

His influence on his patients was remarkable. They loved him for his tenderness of heart, his courage and understanding, his cheerful optimism, his desire to serve them, without regard to their financial or social position. He was always the courteous gentleman in his personal and professional life. He was never too busy to see his friends or assist them

when called upon. His love for the good, the true and the beautiful stood foremost in his life, and revealed itself in his every action. He not only sought for ideals, but believed in the possibility of finding them and living up to them when found. He looked at life frankly, but saw nothing unbeautiful in it; for he colored the vision with his personality, his own delightful aestheticism. Chivalry was to him more than a word, for his life was a manifestation of his love of this quality and to him the beauty of womanhood was the expression of the beauty of the world, and he believed the world beautiful. His generosity expressed itself in his every deed, and the only criticism that might be made was that he gave himself too freely. His was a character, noble, strong, grand in the eloquence of service. He died in service and nothing could have brought more happiness to him than the knowledge that he gave his life for his patients. He rests with his Maker, well rewarded for his faith, his love and his sacrifice. A. McM.—*Bulletin, St. Louis Medical Society.*

PHILLIP PATRICK BURTON, M.D.

Dr. Phillip P. Burton, New Hartford, a graduate of St. Louis College of Physicians and Surgeons, 1890, died at his home, March 10, 1928, aged 61.

Dr. Burton was president of the Pike County Medical Society at the time of his death. He was also president in 1923 and 1924, and vice president in 1926 and 1927. In 1926 he served as censor. He was a conscientious practitioner and a man of high and noble character. He practiced medicine in Wayne and Bollinger Counties for twenty-nine years. He lived in Louisiana for one year and moved to New Hartford in 1919. He was a devout Christian, a member of the Methodist Church for thirty-three years. The funeral service held at the Methodist Church, Louisiana, March 11, was largely attended by friends and associates. Interment was made in Riverview Cemetery. The honorary pallbearers were Drs. R. L. Andrae, M. O. Biggs, T. G. Hetherlin, C. P. Lewellen, D. M. Pearson and C. D. Scott, of Louisiana. Dr. Burton is survived by his widow, one son, and two sisters. One son, Phillip, died in 1918.

EUGENE WATTS LEWIS, M.D.

Dr. Eugene W. Lewis, St. Louis, a graduate of the St. Louis College of Physicians and Surgeons, 1900, died February 18, 1928, aged 51.

Dr. Lewis, a practicing physician of St. Louis for twenty-seven years, was born May 23, 1877, at Smithville, Missouri. He received

his preliminary education at the Missouri Military Academy, Mexico, and the William Jewell College, Liberty. He practiced at Columbia, Missouri, for a short time. He was a member of the St. Louis Medical Society since 1913 and a Fellow of the American Medical Association.

PHILIP H. BARTH, M.D.

Dr. Philip H. Barth, Bismarck, a graduate of Marion-Sims College of Medicine, St. Louis, 1901, died at his home, March 1, 1928, at the age of 50 years. He was born in Germany, April 24, 1878, and came to this country at the age of three years. He spent the first few years of his practice in Arkansas but lived and practiced in Bismarck for more than twenty years. He was an able physician and was at all times ready to administer to the needy.

F. W. GALE, Bismarck.

Books for Leisure Moments

"Ultra Violet Tales" (The Macmillan Company, New York), written by Silvio Villa, are for readers who enjoy something quite out of the ordinary. Mr. Villa is a native of Piedmont, Italy. The character of his style of writings is very peculiar, his expressions being, as he himself says, "fundamentally Latin with a veneer coating of English." His literary culture has been made entirely of Latin, Italian and French elements. During the World War he served three years in the Italian army as lieutenant of engineers.

The "Tales" comprise a group of three powerful short stories dealing with high passion, strange events and supernatural phenomena. The writer admits that his stories may appear absurd since he has at times overstepped the boundaries of the possible. He feels however that his work has not been done in vain, if instead of writing well constructed tales he has created characters that will have a place in the heart of the reader. A story, no matter how good, will never be anything but fiction, and a human being rising from the pages of that story is a contribution to life.

The first story as an experiment in spiritism is carried to a startling denouement. The strange episodes regarding communications, table rapping, table moving and other spiritist phenomena, leave the reader gasping with astonishment even if he does still maintain a skeptical attitude.

"Viola" is indeed a strange story and the reader cannot easily forget the girl who is chained by such strong passions and emotions. One who is a firm believer in mental telepathy

might understand how this strange couple came to their unaccounted-for death. In the official records of the police court the cause of death in each instance was recorded as "unknown."

The last of these three stories is decidedly unusual and is especially good from the viewpoint of a descriptive narrative. One's emotions may easily be in harmony with those of the writer as one reads the descriptions of the wonderful villas in Rome, the Roman sunset over the hills, and the solitude of the Campagna. But the description is even more realistic when Mr. Villa tells of his own experiences during the World War, when it seemed that the great nations had flung themselves at one another's throats and the very structure of civilization was tottering on its foundation.

Each of the three stories is distinctively different, but Mr. Villa has succeeded in capturing the reader's interest and holding it throughout the book.

L. C.

Dr. Alfred A. Mumford has written a book which should be of vital interest to every one especially to parents. This book, entitled "Healthy Growth" (Oxford University Press), is a study of the relation between the mental and physical development of adolescent boys in a public day school. Dr. Mumford is in every way qualified to write such a book and he illustrates the wisdom of his method of dealing with children in an argument that is both clear and convincing. The question of healthy growth is always before us whether our relationship with the adolescent boy is that of parent, schoolmaster, medical man or educational administrator. No effort should be spared to make adequate provision for healthy growth by suitable environment as well as by skilled instruction and proper supervision. We are not very clear however on the subject of the proper significance and implication of the term "healthy growth," either of body or of mind. The standards of healthy growth, both mental and physical, required for adolescent school boys, are necessarily more complex and more exacting than those required for pre-adolescent school children. The average boy has been adopted as the basis of comparison, not because he is entirely a satisfactory specimen but because he provides a convenient starting point from which to measure variations either in excess or defect.

Dr. Mumford has rendered a great service by giving us a standard for measuring the growth of boys; it may be called "the Manchester Grammar School Standard." If medical officers of other schools would copy his example we should soon have the means of framing a national standard. In boyhood

growth is the pulse of life and Dr. Mumford tries to keep his finger on this pulse. In another chapter we find Dr. Mumford measuring the absolute growth of the boy. Growth is the most easily recognizable and the most readily measurable quality of life. It forms an inevitable stage in the organization of any living being. In this chapter we are concerned with the problems as to how such transformations of matter and energy take place, what assists and what retards their manifestation and immediate usefulness.

Mental and physical growth are both expressions of a single activity, that of life itself; and they react each upon the other.

Closely associated with the question of the influence of mental concentration upon growth is that of the influence of exercise. The closing chapters of the book deal with the ailing school child. On this subject parents need to be enlightened for the benefit of the less fortunate child as well as for protection of the normal one. Before attempting to consider the factors which influence the output of emotional energy by ailing children it is necessary to make inquiry into their body measurements. In the case of the normal child, at each stage of development, there is a proper proportion between the head, trunk and limbs, whether they are considered by themselves or in relation to the degree of development of the various organs; and it is this knowledge that is used in studying ailing children.

The outstanding merit of this book lies in the fact that it is written by a thinking and observant man. Dr. Mumford is not only a medical officer but an educator and philanthropist. It is just such a book as this which makes medical men proud of their profession. He chose to devote his abilities to the children of the poor and afterward to devote the prime of his manhood to laying a foundation upon which others may build. "Healthy Growth" represents this foundation.

L. C.

"Medical Science for Everyday Use" (Lea & Febiger, Phila.) is small in bulk, containing only 160 pages, but is a mine of useful information for the average reader. The author, Dr. Shields Warren, instructor in pathology in the Harvard Medical School, explains that the various subjects were originally written for publication in the *Boston Sunday Herald*, where they attracted such widespread attention and interest as to move him to revise, rewrite and collect them in book form. Dr. Warren has rendered an invaluable service to the masses in carrying out this decision.

The two chapters on "The Growth of Children" and "The Health of School Children" should be read by every parent. In the former,

Dr. Warren mentions briefly some of the things which stunt the growth of infants and young children, such as diseased tonsils and adenoids, running ears, improper diet, etc. It is his contention that "a little extra care and oversight on the part of the parents can often convert an undernourished youngster into a healthy one," a truth which all parents who have had experience in rearing children will readily admit. The trouble seems to be, however, that parents often neglect the physical condition of their children and the results may not be manifest until in later life.

In his discussion of the health of school children, the author shows that great strides have been made by our public schools in the physical development of the children. The constant activity of the school nurse is an appreciable evidence of this fact. Proper school buildings, correct systems of heating and ventilation, physical supervision by school nurses, along with supervised recreation and athletics all demonstrate the great advance made in late years in scientific care of school children, so that oftentimes the child is surrounded by better health conditions in the school than at home.

The author pays his respects to quacks and patent medicine fakers who prey upon the credulity of the fat woman. "The desire for a sylph-like form seems to increase," he says, "as its attainment becomes more difficult." He advises only moderate exercise and a proper diet.

The chapters on the common cold and sore throats, diabetes, scarlet fever, diphtheria, blood poisoning, hay fever, rickets, and other well known diseases, are most practical and illuminating. The book is written in a popular style that will appeal to the average reader. This is a book which should be in the library of every American home.

L. M. C.

A book that should have been written years ago is Dr. J. F. Montague's "Troubles We Don't Talk About" (J. B. Lippincott Co., Phila.). Dr. Montague says "It is written for those who suffer in silence, linger in doubt and carry on in despair, so that they, too, may enjoy better health and longer life." Often the troubles we don't talk about create a false sense of modesty that prevents us from consulting a physician but in the care of our bodies we should be properly informed as to what to do and what not to do, for thereby we may save ourselves much misery. Many times diseases are not discussed with the doctor due to an overstrained idea of modesty as a virtue; but carried to the extreme it ceases to be a virtue and becomes a dangerous enemy.

Dr. Montague discusses various ailments

which are considered "unmentionable," such as fistula, hemorrhoids, and other rectal involvements, yet the rectum is one of the most important organs in that group which comprises the food canal. Little thought is given by the average person to the wonders of the digestive system despite the fact that one's comfort, in fact one's existence, depends upon the efficiency with which the stomach and intestines act upon the food taken into the body.

A chapter of great interest is that on cancer. It is generally admitted that cancer is the most dreaded ailment of modern times. Dr. Montague holds that cancer is not a disease but the *result* of a disease which he calls "Delay." In the very worst form of cancer there is always the time during its period of inception when cure is possible if the proper treatment is administered. The only possibility of cure in the treatment of cancer depends upon discovering the growth before it has done severe injury to some vital part of the body.

One of our most common ailments, avoidable in most cases, is constipation. There are many ways in which constipation can originate but about the most common is that of overeating without drinking a sufficient quantity of water. The value of eating green vegetables as a preventive of constipation cannot be overestimated.

Dr. Montague emphasizes the necessity for physical examinations and shows that these can be made without embarrassment or pain. He also points out the dangers that accrue from certain so-called "home remedies," which generally do more injury than good.

The book will more than speak for itself, so far as the average reader is concerned, due to the information it so thoroughly and plainly presents.

L. M. C.

Mr. John Clarence Funk, the author of "How to Live Longer," (David McKay Co., Philadelphia) knows how to give advice to the people upon their health. In fact he rather badgers the reader into taking care of himself. No one seems to want to do this, not even the doctor who knows how. Every one seems to test and tempt his health to the limit and then sit back to see what happens. Unfortunately, something usually does happen. To those who recall Sinclair Lewis' "Arrowsmith" there is rather a Peckinbaugh twist to the titles, diction and verses of this book. This is not a fault. It simply shows that Mr. Funk is familiar with the language understood by the great majority of people. The book is good for general consumption because it constantly reiterates the advice "see your doctor." Any physician contemplating public health speaking will find many good patterns in this small volume.

E. H. S.

CORRESPONDENCE

FIRST CASES OF TULAREMIA REPORTED
IN MISSOURI

Kansas City, April 2, 1928.

To the Editor:

In your issue of April, 1928, of the Missouri State Medical Association Journal, you have an editorial on "Tularemia," in which you state that the cases reported by Doctors McLaughlin and Jones, as well as those by Doctors Putnam and Gorin, are the first cases of this disease to be reported in Missouri. I believe that this statement is slightly in error as evidenced by the enclosed pamphlet.* In addition, I read a paper on tularemia before the Jackson County Medical Society in January, 1926, three months before the publication of this article in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. At that time a letter was received from Dr. Edward Francis, Surgeon, Hygienic Laboratory of the United States Public Health Service, stating that these were the first authentic cases to be reported in Missouri. This is for your information and files.

JOHN LAVAN, M.D.

* A reprint of the report of five cases of tularemia treated by Dr. Lavan in Kansas City in 1925. The report was published in J. A. M. A. 86:839 (March 20), 1926.

FIRST CASE OF TULAREMIA RECOGNIZED IN GREENE COUNTY

Springfield, Mo., April 23, 1928.

To the Editor:

It may be worth while to report that a case of tularemia has been recognized in Greene County, perhaps for the first time. The infection was easily traceable to cleaning of a diseased rabbit; the rabbit "looked bad" and was thrown away. In a few days there was a sore on the thumb, then three weeks of obscure fever, then an axillary abscess which, after three months, is still draining but healing. Diagnosis was confirmed by a blood test done at the Hygienic Laboratory, United States Public Health Service, Washington, D. C.

This is a great rabbit country and other cases are sure to appear. Any physician may send in a few cc. of blood to the laboratory named for a test.

I am glad to acknowledge that the diagnosis in this case was prompted by Dr. Gorin's excellent article on tularemia in your April number.

G. B. LEMMON.

MISCELLANY

REPORT AND ACCOUNTS
OF THE

MISSOURI STATE MEDICAL ASSOCIATION
DECEMBER 31, 1927

KESSLER, CARTALL & Co.
CERTIFIED PUBLIC ACCOUNTANTS
LA SALLE BUILDING
St. Louis, Mo.

March 23, 1928.

Missouri State Medical Association,
St. Louis, Missouri.

Gentlemen:—

Pursuant to your request we have made an ex-

amination of the accounts of the Missouri State Medical Association for the year ended December 31, 1927 and now submit our report thereon together with the following exhibits:

- Exhibit "A" Balance Sheet, December 31, 1927.
- Exhibit "B" Statement of Income and Expenses for the year 1927.
- Exhibit "C" Statement of Cash Receipts and Disbursements—General Fund for the year 1927.
- Exhibit "D" Statement of Cash Receipts and Disbursements—Legislative Fund; Statement of Cash Receipts and Disbursements—Sinking Fund; Statement of Cash Receipts and Disbursements—Defense Fund for the year 1927.
- Exhibit "E" Dues Receivable and Membership by Counties, December 31, 1927.

Comments explanatory of the attached statements and accounts follow:—

COMMENTS

CASH :—(\$13,777.68)

We verified the cash in bank with a certificate obtained direct from the depository, The Traders Bank of Salisbury, Mo., and present in the following summary the cash account as at December 31, 1927:—

General Fund—Traders Bank, Salisbury Mo.	\$8,617.34
General Fund—Secretary's expense fund	192.40
Total	\$ 8,809.74
Legislative Fund—Traders Bank, Salisbury, Mo.	\$3,038.03
Sinking Fund—Traders Bank, Salisbury, Mo.	676.02
Defense Fund—Traders Bank, Salisbury, Mo.	1,243.89
Petty cash fund—St. Louis office.....	10.00
Total	4,967.94
Total Cash	<u>\$13,777.68</u>

We have included in the attached Exhibits "A" and "B" the interest credited by the bank on the above funds, the amount thereof on December 31, 1927 being \$316.94. The cash receipts as recorded on the cash book were traced into the bank accounts, while the disbursements were verified with checks paid by banks, invoices and petty cash vouchers.

The details of the cash receipts and disbursements for the year 1927 are presented in the attached Exhibits "C" and "D."

ACCOUNTS RECEIVABLE—ADVERTISERS:—(\$794.93)

This sum represents the aggregate amount due on accounts for advertising space in The Journal published by the Association. The accounts follow:

<i>Debtor</i>	<i>Amount</i>	<i>Date</i>
Dr. James Moores Ball.....	\$ 11.00	Dec. 1, 1927
Cooperative Medical Advertising Bureau	622.33	Dec. 1, 1927
Excelsior Springs Sanitarium.....	33.75	April 1, to Dec. 31, 1927
Kansas City Roentgen & Radium Institute	101.35	June 30, 1926 to Dec. 31, 1927
Missouri Baptist Sanitarium.....	6.50	
A. McDannold	6.00	Sept. 1, to Dec. 31, 1927
Dr. Stokes Sanatorium.....	13.00	Nov. 1, to Dec. 1, 1927
Southwest Surgical Supply Co.....	26.00	Sept. 1, to Dec. 31, 1927
Total	\$819.93	
Less—Payment by Glenwood Sanatorium	25.00	
Net Outstandings	<u>\$794.93</u>	

We did not verify the accounts by communicating with the debtors.

As heretofore the values of the items furnished by reciprocal advertisers in exchange for advertis-

ing space have not been included in the attached statements of receipts and disbursements.

During the year under review the account of the Wills-St. Claire Co. in the sum of \$34.00 was charged off.

DUES RECEIVABLE :—(\$2,797.00)

In verification of the dues receivable as of December 31, 1927 we inspected the members' accounts and listed the past due balances included therein which are summarized in Exhibit "E" attached. The dues receivable are analyzed as follows:—

Year 1925	\$ 40.00
Year 1926	856.00
Year 1927	2,824.00
Total	\$3,720.00
Less—Prepaid dues	\$830.00
Less—Unapplied credits	93.00
Net Total December 31, 1927.....	<u>\$2,797.00</u>

As the dues are taken into income on a cash basis, a reserve for uncollected dues equal to the dues receivable in the sum of \$2,797.00 has been set up in the attached Balance Sheet.

The membership of the Association on December 31, 1927, as reflected by the records, was as follows:—

Particulars	Members			Total
	Senior	Honor	Junior	
Buchanan County	124	1	..	125
Greene County	98	2	..	100
Jackson County	494	36	1	531
Other Counties	1378	27	1	1406
St. Louis City	1029	19	31	1079
Totals	<u>3123</u>	<u>85</u>	<u>33</u>	<u>3241</u>

FURNITURE AND FIXTURES :—(\$1,550.25)

During the year under review the sum of \$265.75 was added to this account as itemized below:—

One set Encyclopedia Britannica.....	\$ 79.00
One sectional book case for above.....	12.00
One typewriter—L. C. Smith.....	49.00
One motion picture machine and translucent screen for same	111.45
One Art Metal card file.....	14.30
Total Additions	<u>\$265.75</u>

No depreciation has been taken on furniture and fixtures. Fire insurance in the sum of \$1,000.00 is carried thereon.

ACCOUNTS PAYABLE :—(\$380.56)

Unpaid bills in the above sum for supplies and expenses applicable to the period under review have been set up as liabilities and they include all direct obligations of which we had cognizance. The Association is contingently liable on pending malpractice suits in the sum of \$4,100.00.

GENERAL COMMENTS :—

Exhibit "B" attached reflects the income and expenses of the Association for the year 1927; as is indicated therein the income for the year exceeded the expenses to the extent of \$3,245.05.

Surety bonds in force at December 31, 1927 were noted by us as follows:—

Massachusetts Bonding and Insurance Co.	
No. F-119097 on Dr. E. J. Goodwin, Secretary	\$ 1,000.00
Massachusetts Bonding and Insurance Co.	
No. F-127128 on Dr. G. W. Hawkins, Treasurer	20,000.00
Total	<u>\$21,000.00</u>

To improve the internal check and to facilitate the work we would recommend that quarterly lists of outstanding dues be prepared and filed. The general

condition of the books and records examined was satisfactory.

Should you desire further information in regard to the accounts we shall be pleased to have you advise us.

Yours very truly,
KESSLER, CARTALL & Co.,
Certified Public Accountants.

MISSOURI STATE MEDICAL ASSOCIATION
BALANCE SHEET, DECEMBER 31, 1927

EXHIBIT "A"

ASSETS

Cash:—		
General Fund, Exhibit "C".....	\$8,819.74	
Legislative Fund).....	3,038.03	
Sinking Fund)Exhibit "D".....	676.02	
Defense Fund).....	1,243.89	
	<u>\$13,777.68</u>	
Accounts receivable—Advertisers.....	794.93	
Dues receivable—Exhibit "E".....	2,797.00	
Furniture and fixtures (Book value)....	1,550.25	
	<u>\$18,919.86</u>	

LIABILITIES

Accounts payable:—		
Supplies and expenses	\$ 380.56	
Reserve for uncollected dues.....	2,797.00	
Fund balances:—		
General	\$8,819.74	
Legislative	3,038.03	
Sinking	676.02	
Defense	1,243.89	
	<u>13,777.68</u>	
Surplus	1,964.62	
	<u>\$18,919.86</u>	

NOTE—Contingent liability to members on pending malpractice suits—\$4,100.00.

STATEMENT OF INCOME AND EXPENSES FOR THE YEAR 1927

EXHIBIT "B"

Income:—		
Dues paid	\$23,373.00	
Advertising—Journal	9,077.67	
Subscriptions—Journal	28.20	
Rental—Exhibit space—Annual convention	745.00	
Interest	81.06	
Bad debts recovered	104.95	
Total Income	<u>\$33,409.88</u>	
EXPENSES:—		
Badges	\$ 53.32	
Cash discount—Advertisers	367.73	
Commissions on advertising	904.07	
Defense—Malpractice suits	600.00	
Donations	117.00	
General expense	644.10	
Insurance	7.95	
Journal expense	7,548.17	
Legal expense	315.97	
Legislative expense	3,134.72	
Meetings	2,717.33	
Office rent and light	1,437.80	
Office salaries	3,767.79	
Officers' salaries	5,100.00	
Postage	629.27	
Printing, stationery and office supplies	579.41	
Telephone and telegraph	1,244.34	
Traveling expense	995.86	
Total Expenses	<u>30,164.83</u>	
Excess of Income Over Expenses.....	<u>\$ 3,245.05</u>	

FUND RESERVES AND SURPLUS

Balance January 1, 1927.....	\$12,497.25
Add—Excess of income over expenses...	3,245.05
Balance December 31, 1927.....	<u>\$15,742.30</u>
Distributed as follows:—	
General fund reserve	\$8,819.74
Legislative fund reserve	3,038.03
Sinking fund reserve	676.02
Defense fund reserve	1,243.89
Surplus fund reserve	1,964.62
Total	<u>\$15,742.30</u>

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS—GENERAL
FUND FOR THE YEAR 1927

EXHIBIT "C"

Balance January 1, 1927.....	\$ 5,813.81
Receipts:—	
Journal advertising	\$7,269.78
Membership dues	23,401.50
Subscriptions to Journal (Non-members)	28.20
Exhibits	745.00
Bad accounts recovered (Advertising)	71.61
Commissions on advertising—Refund..	541.26
Interest on bank balances.....	184.58

Total Receipts 32,241.93

Cash to be accounted for..... \$38,055.74

Disbursements:—

Legislative fund—Cash transfers	\$2,928.00
Defense fund—Cash transfer	1,000.00
Office supplies	158.82
Journal expense	7,580.26
General expense	757.87
Officers' salaries	5,100.00
Office salaries	3,767.79
Traveling expense	995.86
Telephone and telegraph	1,199.36
Rent and light	1,437.80
Furniture and fixtures	265.75
Meetings	2,717.33
Legal and auditing	315.97
Dues refunded	12.50
Commissions paid	22.50
Postage	563.73
Printing and stationery	325.59
Badges	53.32
Insurance—Legislative, etc.	17.55
Reversal of accrual January 1, 1927....	16.00

Total Disbursements 29,236.00

Cash Balance December 31, 1927..... \$ 8,819.74

Consists of:—

Traders Bank account, Salisbury, Mo.	\$8,617.34
Secretary's expense fund.....	202.40

Total \$8,819.74

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE
YEAR 1927

EXHIBIT "D"

LEGISLATIVE FUND

Balance January 1, 1927.....	\$3,142.86
Transferred from General Fund.....	2,928.00
Interest on bank balances.....	92.29

Total cash to be accounted for..... \$6,163.15

Disbursements:—

Meeting expenses	\$ 273.38
Information and legal expense.....	2818.69
Sundry expenses	33.05

Total Disbursements 3,125.12

Cash in bank December 31, 1927..... \$3,038.03

SINKING FUND

Balance January 1, 1927.....	\$ 658.57
Add—Interest on bank balance.....	17.45

Cash in bank December 31, 1927..... \$ 676.02

DEFENSE FUND

Balance January 1, 1927.....	\$ 821.27
Received from General Fund.....	1,000.00
Interest on bank balances	22.62

Total Receipts to be accounted for.. \$1,843.89

Disbursements:—

Defense in malpractice suits..... 600.00

Cash in bank December 31, 1927..... \$1,243.89

DUES RECEIVABLE AND MEMBERSHIP BY COUNTIES—
DECEMBER 31, 1927EXHIBIT "E"
DUES RECEIVABLE

County	Year 1925	Year 1926	Year 1927	Total Receiv- able	No of Mem- bers
Adair	\$	\$	\$ 16.00	\$ 16.00	11
Atchison					14

Audrain	8.00	32.00	40.00	22
Barry	8.00	32.00	40.00	9
Barton	8.00	48.00	56.00	10
Bates				17
Benton		8.00	8.00	9
Boone	8.00	32.00	40.00	35
Buchanan		88.00	88.00	125
Butler	16.00	32.00	48.00	14
Caldwell				14
Callaway				3
Camden				12
Cape Girardeau	16.00	40.00	56.00	8
Carroll				23
Carter-Shannon		8.00	8.00	8
Cass	8.00	40.00	48.00	23
Chariton				19
Christian				10
Clark		8.00	8.00	7
Clay		32.00	32.00	33
Clinton	16.00	48.00	64.00	14
Cole	16.00	24.00	40.00	28
Cooper	8.00	16.00	24.00	19
Crawford				9
Dallas	24.00	32.00	56.00	4
Davies	8.00	16.00	24.00	15
Dekalb	8.00	32.00	40.00	7
Dent				4
Dunklin	8.00	40.00	48.00	17
Franklin		8.00	8.00	23
Gasconade-Maries- Osage	8.00	24.00	32.00	10
Gentry	16.00	32.00	48.00	12
Greene	32.00	120.00	152.00	100
Grundy	16.00	16.00	32.00	16
Harrison	8.00	24.00	32.00	10
Henry	8.00	8.00	16.00	22
Holt				14
Howard		32.00	32.00	14
Howell-Oregon				24
Iron				3
Jackson	8.00	128.00	136.00	531
Jasper	5.00	16.00	53.00	61
Jefferson		8.00	8.00	14
Johnson				18
Knox		16.00	16.00	7
Laclede		16.00	16.00	14
Lafayette				30
Lawrence-Stone	48.00	80.00	128.00	25
Lewis		24.00	24.00	7
Linn		16.00	16.00	21
Livingston	32.00	56.00	88.00	15
Macon	24.00	48.00	72.00	12
Madison				6
Marion	8.00	8.00	16.00	28
Mercer				9
Miller				8
Mississippi		8.00	8.00	8
Moniteau	8.00	8.00	16.00	8
Monroe				7
Montgomery				6
Morgan				2
New Madrid	32.00	56.00	88.00	12
Newton		8.00	8.00	13
Nodaway		32.00	32.00	26
Pemiscot	16.00	56.00	72.00	17
Perry	8.00	24.00	32.00	7
Pettis		8.00	8.00	41
Phelps	24.00	32.00	56.00	16
Pike	32.00	80.00	112.00	11
Platte				15
Polk	5.00	24.00	53.00	5
Pulaski	8.00	16.00	24.00	9
Putnam	24.00	32.00	56.00	8
Ralls				3
Randolph	16.00	64.00	80.00	33
Ray	8.00	32.00	40.00	16
Reynolds		16.00	16.00	5
St. Charles				21
St. Clair		8.00	8.00	2
St. Francois	30.00	88.00	128.00	16
St. Genevieve				6
St. Louis County				55
Saline		16.00	16.00	34
Schuyler		8.00	8.00	5
Scotland				5
Scott	8.00	56.00	64.00	22
Shelby	8.00	16.00	24.00	13
Stoddard	8.00	24.00	32.00	15
Sullivan				9
Taney	8.00	16.00	24.00	5
Texas	8.00	32.00	40.00	13
Vernon-Cedar				31
Wayne	24.00	40.00	64.00	8
Webster				9
Wright-Douglas	16.00	24.00	40.00	12
St. Louis City	104.00	640.00	744.00	1,079

Totals \$40.00 \$856.00 \$2,824.00 \$3,720.00 3,241

Less prepaid dues and unapplied credits:—

Prepaid Dues:—			
Adair	\$32.00		
Benton	60.00		
Caldwell	8.00		
Camden	16.00		
Crawford	16.00		
Grundy	88.00		
Jasper	88.00		
Johnson	8.00		
Lafayette	96.00		
Miller	32.00		
Perry	8.00		
Phelps	72.00		
Texas	40.00		
St. Charles	104.00		
St. Francois	8.00		
Wright-Douglas	16.00		
		\$692.00	
Unapplied Credits:—			
Jackson	\$24.00		
St. Louis	136.00		
Buchanan	24.00		
Barry	3.00		
Dunklin	3.00		
Grundy	3.00		
Howard	8.00		
Johnson	2.00		
Jasper	3.00		
Newton	8.00		
Pemiscot	3.00		
Pettis	8.00		
St. Charles	3.00		
Wayne	3.00	231.00	\$ 923.00
Net Dues Receivable, per Balance Sheet			
			\$2,797.00

COLUMBIA, MISSOURI'S EDUCATIONAL CAPITAL

LOCATION

Columbia in 1928 is a beautiful, prosperous growing city with a population of 16,500 persons, exclusive of its students. It is situated at the exact east-west center of the state, at the junction of Federal Highways No. 40 and No. 63, 132 miles east of Kansas City, 131 miles west of St. Louis, and 30 miles due north of the State Capital. The city stands as the principal northern gateway to the Ozark region and a two or three hours drive south will provide recreation of the best type that is to be found at the famous mountain resorts.

To the south and west of Columbia the hill country adjacent to the Missouri River spreads away in picturesque tablelands and rich valleys of alluvial soil. Wooded parks abound unlimited throughout the hilly country to the south, while the plateaus to



Fig. 2. University Hospital. Original building built in 1901; new addition added in 1923. Eighty-five bed capacity. For the care of students enrolled in the University. Also equipped for private patients. The State Crippled Children's work, under the direction of Dr. Frederick A. Jostes, is being carried on here.

the north and east provide abundant means for agricultural pursuits.

HISTORY

Columbia is the county seat of Boone County, named in honor of the famous pioneer, Daniel Boone. It was founded in 1821 and incorporated as a city in 1826. Situated on the eastern border of what was known as the Boone's Lick Country, Columbia and Boone County look out over that Central Missouri territory which enlivened and colored the pages of history by reason of its close association with the old master of trails. Near-by are found many Boone mementos and landmarks to which tourists travel daily in rapidly increasing numbers.

EDUCATIONAL FACILITIES

Columbia is the educational capital of Missouri, offering facilities for education to be found in no other city in the state. The University of Missouri, the largest in the state and the oldest state university west of the Mississippi River, furnishing educational opportunities for 8,000 students annually and representing an investment of more than \$1,500,000 an-



Fig. 1. Medical Building, Francis Quadrangle, corner Elm and Sixth. Only the first two years of medicine are given. Sixty-five students enrolled.



Fig. 3. Historic Columns, West Campus. The remaining portion of the original Academic Hall destroyed by fire in 1892.



Fig. 4. Jesse Hall, formerly Academic Hall. Administrative offices, College of Arts and Science and University Auditorium.

nually, is the chief pride of the city. This institution now has the enviable record of having given instruction to more than 45,000 persons since it was established in 1839. The enrollment is increasing by leaps and bounds, there being an increase for this year over last year amounting to 12.6 per cent.

The medical department of Kemper College (McDowell Medical College), founded in St. Louis in 1840, was the first medical school established west of the Mississippi River. In 1845 this school became the medical department of the University of Missouri. Shortly before the Civil War it was discontinued. It was reestablished in Columbia in December, 1872. The curriculum was at first only two years in length, but this was extended to three years in 1891, and to four years in 1899. In 1910 the last two years of the medical curriculum were temporarily suspended, owing to the limited clinical facilities in Columbia. The first two years of the medical curriculum have been continued at Columbia and still further strengthened.

Stephens College, a Baptist institution founded in 1833 for young women students, is another college of high merit in the city. It has an enrollment of 638 students this year and its present valuation is \$1,300,000. In the 283 courses offered may be found instruction for young women in all subjects of par-



Fig. 5. Boone County Hospital, East Broadway at Williams Street. Built in 1921 at cost of \$175,000. Fifty bed capacity. Equipped for general surgical and medical work.

ticular interest. In the last few years this institution has enjoyed a growth unparalleled by any similar college in the middle west.

Christian College, another school for young women students, was founded at Columbia in 1851. Today its valuation is \$664,507, with more than one-half million dollars of this amount representing its expenditure in building construction. There are 270 students enrolled in the 80 courses, who receive instruction from 32 faculty members.

Columbia, in addition to its institutions of higher learning, also has one of the most modern public school systems, embracing two high schools, seven grade schools and one parochial school. In addition, a high school is conducted in conjunction with the University of Missouri. This year there were 3,110 students enrolled in the public schools of Columbia who received instruction from 87 men and women on the teaching staff. Columbia has completed, this year, a new \$400,000 high school building, which was made compulsory on the city by the growth in population and the increasing interest in education.

Of notable interest to home seekers is the fact that a child may start in the kindergarten of ele-



Fig. 6. South Hall, Stephens College. One of the six dormitories on the College Campus. A Baptist institution founded in 1833. Junior College; 638 students. President, James A. Wood.

mentary schools of Columbia and complete the full curriculum of study for a degree in Law, Engineering, Science, Journalism, Education, Business, Agriculture, Home Economics or Liberal and Fine Arts without having to leave home or place of residence.

HOSPITALS

Columbia has two hospitals on the accepted list of the American College of Surgeons. The Boone County Hospital, built in 1921 by the county under the new state law, has fifty beds and organized clinics for indigent patients and is equipped for general medical and surgical work.

The University Hospital consists of the original Parker Memorial Hospital built in 1901 and the new addition finished in 1923. The hospital is organized to take care of the student health service, private patients and, during the last year, the state crippled children's work has been carried on there.

Both hospitals are equipped with X-ray appliances and laboratories for clinical, chemical, bacteriological and pathological work.

HOMES

Columbia's second pride is its homes. No city can

boast of more beautiful residence property or of homes built more in accordance with taste than Columbia. The educational institutions set a high standard of living which is followed out by the construction of the homes. Zoning plans are observed, landscaping is carried out to the fullest extent and subdivisions and additions are growing in popularity as the business and professional home owners move to the suburban districts. A very large percentage of Columbia homes are occupied by owners and few vacant homes are to be found in the city, even though construction work on 100 new homes will be completed this year.

CHURCHES

Columbia boasts of its churches. In no city in the state can more active interest in religious affairs be found. Nineteen denominations have church buildings with a combined resident membership of more than 7,000 and approximately 2,000 student



Fig. 7. Entrance gateway to Christian College, a school for young women maintained by the Christian Church. Founded in 1851. Two hundred and seventy students. President, Edgar Lee.

members in the University and colleges. Columbia has the largest student Bible class in the world.

AMUSEMENTS

Columbia's amusements are of a type and quality in keeping with its high standard of living. Inter-scholastic athletic events, dramatic productions by departments in the University and colleges, and the various student activities furnish entertainment throughout the school year. In addition there are three downtown theaters, a large public swimming pool, two sporty golf courses, riding and hiking clubs available in season and during the year. A two or three hour ride places Columbia home owners in the midst of the Ozark Mountains where all of the popular outdoor sports may be enjoyed.

GROWTH

Columbia's growth from 1920 to 1928 showed an increase of 51 per cent. Only one other city in the state grew correspondingly in that period and no city of its class showed this much increase in resident population. Construction to the amount of three and one-half million dollars will be completed this year alone, embracing thirty-five business establishments and more than 100 homes. It is conservatively estimated that the population of Columbia will reach 25,000 during the next five year period, this estimate being based on the percentage growth since 1920.



Fig. 8. Memorial Tower. Built in commemoration of the students and former students who gave their lives in the World War. It stands alone now but will eventually be the center of a student Union Building.

ACCESSIBILITY

Columbia, by means of its two railroads and two transcontinental highways, is easily accessible to points of any direction. Its transportation facilities are desirable and serviceable in two ways: They are ample for the handling of both passengers and freight and also provide the city with that amount of privacy which is most conducive to happiness and prosperity of an educational center. Branch lines from both the Wabash and Missouri-Kansas-Texas railroads are extended into Columbia, tying up the city with the main lines, which run a short distance to the east and west of Columbia. The two federal highways, No. 40 and No. 63, which converge at the city limits, afford Columbia the advantage of hard surface traffic without traversing the city streets. Service in and out of Columbia may be had almost hourly.

FUTURE

Columbia to all intents is a progressive and prosperous municipality, bidding fair to occupy the stage as the largest Central Missouri city within a very few years, and holding before the world unequalled opportunities for men, women and children who desire educational environment or homes in a city of beauty and accomplishment.



Fig. 9. Daniel Boone Tavern (Headquarters).

MISSOURI STATE MEDICAL ASSOCIATION

71st ANNUAL MEETING

The 71st Annual Meeting of the Association convenes at Columbia, Tuesday, Wednesday and Thursday, May 15, 16 and 17. The House of Delegates will convene Monday, May 14, and hold its first session when a large part of the business of the Association will be transacted without interfering with the scientific proceedings on the following days. The House of Delegates will hold its meetings in the auditorium of the Missouri Methodist Church. All scientific sessions will also be held in the Missouri Methodist Church. Two open meetings, one on Wednesday night to hear the President's address and a public health meeting on Thursday night, will be held in the Missouri University Auditorium. The registration desk and the exhibits will be located in a room of the Missouri Methodist Church adjoining the auditorium. The scientific program follows:

HOUSE OF DELEGATES

First Meeting—Monday, May 14, 1928—9:30 A. M.
Missouri Methodist Church

Roll Call.
Reading of Minutes of Previous Meeting.
Reading of President's Message and Recommendations.
Report of Committee on Arrangements.
Report of Secretary.
Report of Treasurer.
Report of Committee on Scientific Work.
Report of Committee on Public Policy.
Report of Committee on Publication.
Report of Committee on Medical Defense.
Report of Committee on Medical Education and Hospitals.
Report of Committee on Medical Economics.
Report of Committee on Postgraduate Course.
Report of Committee on Constitution and By-Laws.
Appointment of Committee on Nominations.

Recess till 3:00 P. M.

Report of the Council.
Report of Reference Committees.
Reading of Resolutions, Memorials, etc.
Selection of Place of Next Meeting.
Miscellaneous Business.

Second Meeting—Wednesday, May 16, 1928—3:30 P. M.
Missouri Methodist Church

Reading of Minutes.
Election of President.
Report of Nominating Committee.
Election of Officers.
Unfinished Business.

THE COUNCIL

First meeting Monday, May 14, immediately after adjournment of the morning session of the House of Delegates.

GENERAL MEETING

Tuesday, May 15, 1928—8:30 A. M. Missouri Methodist Church

Symposium on Skin Disease:

Cancer of the Skin.....M. F. Engman, M.D., St. Louis
Ringworm of the Feet.....R. L. Sutton, M.D., Kansas City
Allergy as the Cause of Dermatoses..Wm. W. Duke, M.D., Kansas City
Manifestations in Syphilis.....W. H. Mook, M.D., St. Louis
Discussion opened by Dr. Joseph Grindon, St. Louis
Radium Treatment of Angioma in Infants....G. V. Stryker, M.D., St. Louis
Worry: Its Cause and Prevention.....D. S. Booth, M.D., St. Louis
Discussion opened by Dr. G. Wilse Robinson, Kansas City
Focal Infection: When and Why Operative Treatment Should Not Be
EmployedV. V. Wood, M.D., St. Louis
Discussion opened by Dr. D. D. Stofer, Kansas City
Clinical Considerations in the Diagnosis and Treatment of Jaundice and
Ascites.....Carl H. Greene, M.D., Rochester, Minn.

GENERAL MEETING

Tuesday, May 15, 1928—1:30 P. M. Missouri Methodist Church

Symposium on Arthritides:

- Infections as a Factor in Arthritis...Russell L. Haden, M.D., Kansas City
- Luetic Origin.....C. B. Francisco, M.D., Kansas City
- Nutritional Disturbances.....J. E. Welker, M.D., Kansas City
- X-Ray.....Sherwood Moore, M.D., St. Louis
- Physical Means in the Treatment of Arthritis.....F. H. Ewerhardt, M.D., St. Louis
-Discussion opened by Dr. I. H. Lockwood, Kansas City
- Progress of Prostatic Surgery.....J. Hoy Sanford, M.D., St. Louis
-Discussion opened by Dr. E. G. Mark, Kansas City
- The Significance of Hematuria and Pyuria: Illustrated With Lantern Slides.....O. J. Wilhelmi, M.D., St. Louis
-Discussion opened by Dr. Clinton K. Smith, Kansas City
- The Medical Stomach.....Ralph W. Holbrook, M.D., Kansas City
- The Surgical Stomach.....Walter F. Holbrook, M.D., Kansas City
-Discussion opened by Dr. E. Lee Miller, Kansas City

GENERAL MEETING

Wednesday, May 16, 1928—8:30 A. M. Missouri Methodist Church

Symposium on Headache:

- Headaches of Ocular Origin.....Lawrence Post, M.D., St. Louis
- Nasal Headaches.....Arthur W. Proetz, M.D., St. Louis
- Modern Views of Headaches With Relation to Obstetrics and GynecologyGeorge C. Mosher, M.D., Kansas City
- Neurological Aspects.....B. L. Elliott, M.D., Kansas City
-Discussion opened by Dr. H. L. Kerr, Crane
- A New Method of Examination of Patients Affected With Intestinal Stasis; With Suggestions Relative to Treatment: A Clinical Talk Illustrated With Lantern Slides....Frank Smithies, M.D., Chicago, Ill.
- The Early Diagnosis of Tuberculosis..F. M. Pottenger, M.D., Monrovia, Calif.

GENERAL MEETING

Wednesday, May 16, 1928—1:30 P. M. to 3:30 P. M. Missouri Methodist Church

- Significance of Pain in the Lower Abdomen in Gynecological ConditionsQuitman U. Newell, M.D., St. Louis
-Discussion opened by Dr. W. C. Gayler, St. Louis
- Practical Points in the Feeding and Care of Infants.....McKim Marriott, M.D., St. Louis
-Discussion opened by Dr. Frank C. Neff, Kansas City
- Goiter.....A. E. Hertzler, M.D., Kansas City
-Discussion opened by Dr. Kerwin W. Kinard, Kansas City
- Eye Injuries and Workmen's Compensation Commission.....Emmett P. North, M.D., St. Louis and Vincent L. Jones, M.D., St. Louis
-Discussion opened by Dr. Walter L. Small, Kansas City
- At 3:30 p. m. the General Meeting will adjourn and the House of Delegates will immediately go into session.

GENERAL MEETING

Wednesday, May 16, 1928—7:30 P. M. Missouri University Auditorium

- Music by the Women's Glee Club and Men's Glee Club, University of Missouri. Directed by Mr. Herbert Wall, Professor of Voice, School of Fine Arts.
- Medical Education: Annual Address of the President.....Frank G. Nifong, M.D., Columbia.
-Address of the President-Elect.....Frank I. Ridge, M.D., Kansas City
- Address.....Frank Smithies, M.D., Chicago, Ill.
- The Public's Estimate of the Doctor (What It Is, Why It Is, and What It Should Be).....F. M. Pottenger, M.D., Monrovia, Calif.

GENERAL MEETING

Thursday, May 17, 1928—8:30 A. M. Missouri Methodist Church

Symposium on Backache:

- Orthopedic Aspects of Backache...Frank D. Dickson, M.D., Kansas City
- Relationship of the Genito-Urinary Organs to Backache.....John R. Caulk, M.D., St. Louis
-Backache From the Gynecological Standpoint.....H. S. Crossen, M.D., St. Louis
- X-Ray Examination of Lumbosacral Region With Reference to Low Back Pain.....P. F. Cole, M.D., Springfield
-Discussion opened by Dr. Logan Clendening, Kansas City

- Uterine Hemorrhage.....Thomas S. Cullen, M.D., Baltimore, Md.
 What Every Doctor Should Know About Cancer.....
J. C. Bloodgood, M.D., Baltimore, Md.
 Intussusception.....Roland Hill, M.D., St. Louis
 Discussion opened by Dr. Damon Walthall, Kansas City
 A New X-Ray Fracture Device: Uses and Results.....
L. G. McCutchen, M.D., St. Louis

GENERAL MEETING

Thursday, May 17, 1928—1:30 P. M. Missouri Methodist Church

- The Late Physical Effects and Symptomatology of Thrombophlebitis
Robert Mueller, M.D., St. Louis
 Discussion opened by Dr. H. S. Forgrave, St. Joseph
 The Dangers of the Diabetic.....Elliott P. Joslin, M.D., Boston, Mass.
 Simple Tests in the Study of Kidney Diseases. .F. C. Narr, M.D., Kansas City
 Discussion opened by Dr. Donald R. Black, Kansas City
 Observations on the Nasal Sinus Problem: Illustrated With Lantern
 Slides.....Evan S. Connell, M.D., Kansas City
 Discussion opened by Dr. Morris B. Simpson, Kansas City, Missouri
 Peri-Colic Adhesions as a Factor in Non-Relief of Symptoms Following
 Chronic Appendicitis.....C. H. Shutt, M.D., St. Louis
 Diverticulum of the Cecum, Case Report With Operative Differential
 Diagnosis: Illustrated With Lantern Slides.....
J. R. McVay, M.D., Kansas City
 Discussion opened by Dr. Jabez N. Jackson, Kansas City
 Tumors of the Larynx: Illustrated With Lantern Slides.....
W. G. Patton, M.D., St. Louis
 Discussion opened by Dr. O. Jason Dixon, Kansas City
 X-Ray Studies of Chronic Pulmonary Infections.....
R. E. Deweese, M.D., Kansas City

PUBLIC MEETING

Thursday, May 17, 1928—8:00 P. M. Missouri University Auditorium

Dr. M. P. Ravenel, Columbia, presiding

- Diabetic Doctors.....Elliott P. Joslin, M.D., Boston, Mass.
 Medicine of the Past and the Future...Jabez N. Jackson, M.D., Kansas City
 Bleeding: A Danger Signal.....Thomas S. Cullen, M.D., Baltimore, Md.
 What Every Man, Woman and Child Should Know About Cancer.....
J. C. Bloodgood, M.D., Baltimore, Md.
 How to Avoid Contagious Diseases; Illustrated With Lantern Slides
Frank C. Neff, M.D., Kansas City

CLINICS

Friday, May 18, 1928—9:00 A. M.

- Practical Demonstration and Discussion of Cancer Problems.....
J. C. Bloodgood, M.D. and Thomas S. Cullen, M.D., Baltimore, Md.
 Dr. E. G. Blair, Kansas City, and Dr. Ellis Fischel, St. Louis, representing
 the American Association for the Control of Cancer, will discuss the cancer
 clinic.

Friday, May 18, 1928—2:00 P. M.

- Demonstration and Discussion of the Practical Management of the Diab-
 etic.....Elliott P. Joslin, M.D., Boston, Mass.
 Clinical Demonstration of the Cutaneous Tests for Communicable Dis-
 eases.....Frank C. Neff, M.D., Kansas City
 Demonstrations of various tests and reactions will be conducted in the
 laboratory during the clinic session. Members are invited to ask for demon-
 strations of tests.

TWENTIETH ANNUAL MEETING OF MISSOURI SOCIETY OF MEDICAL SECRETARIES

Tuesday, May 15, 1928—12:00—Dining Room, Missouri
Methodist Church

The secretaries will meet at luncheon in the dining room of the Missouri
Methodist Church.

Dr. J. T. Hornback, Nevada, Secretary. Dr. W. L. Veirs, Pleasant Hill,
President.

PROGRAM

- Address of Welcome.....Dr. W. L. Veirs
 Address

Dr. Charles H. Neilson, St. Louis, President, St. Louis Medical Society
Address
Dr. Kerwin Kinard, Kansas City, President, Jackson County Medical Society
Round Table Talk: The Influence of the County Medical Society in the Community. Lead by Drs. E. J. Goodwin, St. Louis, Secretary, Missouri State Medical Association; Frank G. Nifong, Columbia, President, Missouri State Medical Association; M. P. Ravenel, Columbia, Professor of Preventive Medicine, University of Missouri.
Election of officers.

ALUMNI REUNIONS

Missouri University Alumni Reunion, Daniel Boone Tavern, Tuesday evening, May 15, 6:30 p. m.
Alpha Kappa Kappa luncheon for members and alumni, Harris' Cafe, Wednesday noon, May 16.
Phi Beta Pi luncheon, Columbia Country Club, Wednesday noon, May 16.

WOMEN'S AUXILIARY, MISSOURI STATE MEDICAL ASSOCIATION—FOURTH ANNUAL MEETING

Officers 1927-1928

President, Mrs. Wallace M. Bickford, Marshall.
President-Elect, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.
2nd Vice President, Mrs. W. T. Martin, Albany.
3rd Vice President, Mrs. T. O. Klingner, Springfield.
4th Vice President, Mrs. M. P. Ravenel, Columbia.
Corresponding Secretary, Mrs. L. S. James, Blackburn.
Recording Secretary, Mrs. M. A. Hanna, Kansas City.
Treasurer, Mrs. T. J. Draper, Warrensburg.
Directors: Mrs. A. B. McGlothlan, St. Joseph; Mrs. D. S. Long, Harrisonville; Mrs. George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University City; Mrs. C. T. Ryland, Lexington (2 years); Mrs. M. P. Overholser, St. Joseph; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves (1 year).

PROGRAM

Tuesday, May 15, 1928—9:00 A. M. Missouri State Teachers Association Building

Executive Board Meeting.

1:00 P. M.—Luncheon Meeting, Dining Room, Missouri Methodist Church
Group luncheons given by the Women's Auxiliary to the Boone County Medical Society in honor of the State Executive Board, State Delegates and visiting women.
Registration Tuesday morning is necessary for assignment to a hostess for luncheon.

2:40 P. M.—Missouri State Teachers Association Building
Talk on Crippled Children, Illustrated With Lantern Slides.....
.....Frederick A. Jostes, M.D., Columbia
This will be followed by Open House at the Medical Building (McAlester Hall) and visits to the crippled children's ward, in groups of twenty-five women.

4:00 P. M.—Tea, University Hospital
Tea will be served in the dining room of the University Hospital.
8:00 P. M.—Daniel Boone Tavern, Mezzanine Floor
State officers and directors will be at home to all delegates and visiting ladies.

Wednesday, May 16, 1928—9:00 A. M. Missouri State Teachers Association Building

Address of Welcome.....Mrs. M. P. Ravenel, Columbia
Response.....Mrs. W. M. Bickford, Marshall
"The leader of the Orchestra is always a man who has played second fiddle."
Frau Elbertus.

Reports of Officers.
Report of Credential Committee.
Report of Amendments Committee.
Report of Nominating Committee.
Election of Officers.

Report of Committee on Resolutions.
 "Ideals of the Medical Profession and How the Auxiliary May Assist in Attaining Them".....Frank G. Nifong, M.D., President, Missouri State Medical Association, Columbia.
 "The Advantages of a County Health Unit to the Profession and the Laity"Mazyck P. Ravenel, M.D., Columbia
 Wednesday, May 16, 1928—12:30 P. M.—Dining Room, Missouri Methodist Church

OPEN LUNCHEON—75 cents

Invocation.....Rev. David Haupt, Calvary Episcopal Church
 Two minute reports from organized counties.
 Introduction of incoming President, Mrs. Willard Bartlett, St. Louis.
 "Relation Between Missouri Tuberculosis Association and Women's Auxiliary".....
 Mr. J. W. Becker, Executive Secretary, Missouri Tuberculosis Association
 The Successful Combating of Tuberculosis.....
F. M. Pottenger, M.D., Monrovia, Calif.
 4:00 P. M.—Columbia Country Club
 Tea. Given by the Boone County Auxiliary to all visiting women.
 6:00 P. M.—Columbia Country Club
 New Executive Board Dinner Session, Mrs. Willard Bartlett, St. Louis, presiding. Tickets \$1.00.
 8:00 P. M.—Missouri University Auditorium
 Open meeting of the Missouri State Medical Association.
 Address of the President, Frank G. Nifong, M.D., Columbia, and other addresses.

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES
WHICH HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.
 St. Francois County Medical Society, January 3, 1928.
 Webster County Medical Society, January 4, 1928.
 Mercer County Medical Society, January 13, 1928.
 Madison County Medical Society, January 18, 1928.
 Chariton County Medical Society, February 23, 1928.
 Ralls County Medical Society, March 10, 1928.
 Platte County Medical Society, March 10, 1928.
 Miller County Medical Society, March 16, 1928.
 Camden County Medical Society, March 23, 1928.
 Ste. Genevieve County Medical Society, March 26, 1928.
 Atchison County Medical Society, March 30, 1928.
 Caldwell County Medical Society, April 14, 1928.

BOONE COUNTY MEDICAL SOCIETY

The March 6, 1928, meeting of the Boone County Medical Society was called to order by the President, Dr. M. Pinson Neal, Columbia, at 7:45 p. m. The minutes of the previous meeting were read and approved.

A letter from Dr. C. L. Lavender, Columbia, thanking the members for the flowers sent during his illness was read. Also a letter from the

Grant County Medical Society, Fort Bayard, New Mexico, accepting Dr. R. R. Robinson, formerly of Hallsville, for membership in their Society. Other letters were from the Mercy Hospital, Kansas City, Missouri, from Dr. W. McN. Miller concerning his election as an Honor Member in the Boone County Medical Society; and from members of the senior class, University of Missouri School of Medicine, offering their services in any capacity during the Missouri State Medical Association meeting.

A motion was made by Dr. Frank G. Nifong that the thanks of the Boone County Medical Society be extended to Dr. Guy L. Noyes and the senior medical class for their kind offer. Seconded by Dr. D. S. Conley, Columbia, and carried.

The program was a symposium on "Obstetrics; Its Management, Surgery and Complications."

Dr. Wm. R. Shaefer, Columbia, read a paper on "Management."

Dr. S. D. Smith, Columbia, gave a talk on "Management and Complications."

Dr. Wm. P. Dysart, Columbia, also spoke on "Management and Complications."

Dr. Dudley A. Robnett, Columbia, talked on "Surgery."

A short talk was given by Dr. Hugh Stephenson on "Dental Lesions Complicating Pregnancy."

There were short talks on "Maternal Impressions." A general discussion followed.

The next program to be given at the Medical School, Columbia, will be on "Electrocardiography." A talk and demonstration will be given by Dr. C. W. Greene, Columbia, Professor of Physiology and Pharmacology, University of Missouri.
 HUGH P. MUIR, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The Buchanan County Medical Society met at the Missouri Methodist Hospital, St. Joseph, Wednesday evening, March 21, 1928. The meeting was called to order at 8:15 p. m. by the President, Dr. E. A.

Gummig, St. Joseph. The reading of the minutes and further business were dispensed with.

Judge R. E. Culver addressed the Society on "A Few Aspects of the Workmen's Compensation Law." Much discussion followed the address.

The consensus of opinion seemed to be that although the workmen's compensation law is in a general way a good law and a marked improvement over the past, still it has its drawbacks and particularly in regard to the payment of fees for medical and surgical services. It was contended by many of the members present that the sum of \$250 allowed by the state to cover hospital bill, laboratory, nurses and doctor's fee for injury cases necessitating major operations was absurdly small and would barely cover the hospital bill alone.

Following this general discussion Dr. Daniel Morton, St. Joseph, moved that the chair appoint a special committee of three members to take up with the proper authorities of the Missouri State Medical Association the injustice to the medical profession, nurses and hospitals of the workmen's compensation law. Motion seconded and carried.

It was further moved that Judge Culver be given a rising vote of thanks for his enlightening address before the Society.

Dr. W. D. Webb, St. Joseph, reported a case of pulmonary hemorrhage in a woman, aged 48, who had been symptom free except for loss of weight. The X-ray showed an old tuberculous process in both apices.

Meeting of April 4, 1928

The April 4, 1928, meeting of the Buchanan County Medical Society was called to order at 8:15 p. m. by the President, Dr. E. A. Gummig, St. Joseph.

Dr. Frank G. Nifong, Columbia, President of the Missouri State Medical Association, was the principal speaker. He spoke on the practice of medicine thirty-five years ago. Many amusing experiences of the early day practice of medicine were related.

The progress made in scientific medicine since that time and the marked improvement in rules of conduct and integrity of the medical profession in general were discussed by one of the members.

The address of Dr. Nifong was an inspiration to all, especially the younger members of the profession, and he was given a rising vote of thanks by the Society.

A film sponsored by the National Association for the Prevention of Tuberculosis was shown. A case of pulmonary tuberculosis with beginning symptoms was pictured showing the importance of early diagnosis and the method of handling such cases properly.

T. L. HOWDEN, M.D., Secretary.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met at the Callaway County Hospital, Fulton, March 15, 1928, with the following members present: Drs. W. H. Williamson, president, and J. E. Parmer, of Mokane; Charles H. Christian, Robert N. Crews, Robert G. Hall, G. D. McCall, H. I. Owen and Martin Yates, of Fulton. Dr. T. R. Fraser, of State Hospital No. 1, Fulton, was a visitor.

For the scientific program we had two cases of paresis for consideration. The record of the first, a case which had reached the stage of dementia, was read by Dr. Charles H. Christian, Fulton. He treated this case by arsphenamized serum injected into the ventricle of the brain through a trephine opening. After three or four injections into the

ventricle the treatment was continued by arsphenamin intravenous injections and the tryparsamide treatment of increasing intervals for several months. The case progressed favorably to apparent recovery, the functions of the brain and the nervous system being restored to normal condition.

Dr. T. R. Fraser, Fulton, reported a case of paresis treated at the State Hospital by inoculations with malaria. He exhibited the patient who evidently showed marked improvement with prospects of cure.

There was a free discussion on this subject. Many questions were asked concerning the details of the treatment of the second case and answered by Dr. Fraser.

This was a very interesting session.

MARTIN YATES, M.D., Secretary.

HOWELL-OREGON-TEXAS MEDICAL SOCIETY

The organization of the Howell-Oregon-Texas Medical Society was completed at a meeting held in Bond Hall, West Plains, Friday afternoon, February 10, 1928.

The officers elected for 1928 were: President, R. E. Hogan, West Plains; first vice president, Joseph L. Eblen, Alton; second vice president, L. M. Edens, Cabool; secretary-treasurer, P. D. Gum, West Plains; councilor, J. C. B. Davis, Willow Springs; delegate, E. Claude Bohrer, West Plains; alternate, Joseph L. Eblen, Alton.

On account of the lengthy discussion of plans for the tri-county organization and the election of officers, only a short scientific program was given, which consisted of a most interesting talk on "Diabetes in Children," by Dr. P. D. Gum, West Plains.

Members present: Drs. E. Claude Bohrer, P. D. Gum, R. E. Hogan, A. H. Thornburgh, and L. E. Toney, of West Plains; D. D. Cox, Pomona; J. C. B. Davis, Willow Springs; W. F. Herron, Houston; Calvin Rhea, Thayer; H. A. Thompson, Lanton.

Meeting of March 20, 1928

The Tri-County Medical Society, composed of the above named counties, met in the office of Dr. L. M. Edens, Cabool, March 20, at 2 p. m. The meeting was presided over by Dr. R. E. Hogan, West Plains, President. The minutes of the last meeting were read and duly approved.

A letter from Dr. E. J. Goodwin, St. Louis, Secretary of the State Association, was read expressing his regrets at being unable to be present on account of a previous engagement which necessitated his attending a meeting in Chicago.

The "doors" of our Society were opened and four new members were received. An honorary membership was unanimously voted to Dr. R. B. Lynch, Plato, who has grown too old in the service to be active.

The scientific program was largely a symposium on "Gallbladder Disease," by speakers sent out by the Postgraduate Committee of the State Association.

Dr. Wilbur K. Mueller, St. Louis, read a splendid paper on "X-Ray of the Gallbladder and its Visualization." The discussion was opened by Dr. D. D. Cox, Pomona. The discussion entered into by other members showed a lively interest in the subject so ably presented by Dr. Mueller.

Dr. Harry G. Bristow, St. Louis, talked to the delight of every one present on "Gallbladder Drainage; Nonsurgical." His presentment of so many interesting and useful things was received with keen interest and the discussion opened by Dr. L. M. Edens,

Cabool, became general, and so much time was taken up by the members in asking Dr. Bristow for further information that it was found necessary to postpone part of the program until our next meeting so we could see the lantern slides presented by Dr. Mueller.

Dr. W. J. Wills, Springfield, who was present to enlighten us on the "Irritated Prostate," a subject of real interest to most of us, in his pleasing way suggested that he be allowed to attend our next meeting and present his subject at that time. It was agreed to do this and now we have something good to look forward to.

Drs. L. M. Edens, Cabool, and J. M. Coats, Cabool, had prepared an elegant supper at the Fredericks Cafe and every one stayed except two who were compelled to go home. Your humble secretary acted as toastmaster, and when Dr. E. C. Wittwer, Mountain Grove, was finally filled we had some interesting after-dinner talks, not altogether scientific, which proved a fitting climax to one of the best meetings we ever had and sent every one home feeling good, realizing the afternoon was well spent. Twenty-three were present, including Drs. Wilbur K. Mueller and Harry G. Bristow, of St. Louis; Dr. W. J. Wills, Springfield; Drs. A. C. Ames, F. B. Dailey, R. A. Ryan, E. C. Wittwer, of Mountain Grove, members of the Wright-Douglas County Medical Society; J. C. B. Davis, Willow Springs; J. M. Coats and L. M. Edens, Cabool; J. M. Davis, Thomasville; J. L. Eblen, D. D. Cox, W. F. Herron and J. R. Womack, of Houston; Leslie Randall, Licking; R. B. Tilley, Plato; E. C. Bohrer, R. E. Hogan, P. G. Gum, R. A. Sparks, L. E. Toney, and A. H. Thornburgh, of West Plains.

P. D. GUM, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session, February 7, 1928, at the Joplin Y. M. C. A. at eight p. m. In the absence of the President, Dr. John L. Sims, Joplin, due to illness, Dr. R. C. Lowdermilk, of Galena, Kansas, was chosen to act as president pro tem. There were twelve members and three visitors present. The minutes of the meeting of January 31 were read and approved.

Communications were read from Dr. E. J. Goodwin, Secretary of the State Association, relative to the programs which he had outlined for the next three meetings, and they received the hearty approval of the members present.

A communication was read from President Sims thanking the members for their many acts of kindness shown during his recent illness. He stated that he expected to be with us at the next regular meeting.

The essayist of the evening, Dr. S. A. Grantham, Joplin, presented his paper on "Gas Bacillus Infection." He reviewed the literature on the subject and then presented his experiences with this form of infection. He gave the case history and progress of a recent case which is recovering following the administration of anaerobic antitoxin, which has recently been developed and placed on the market. He discussed the different antiseptics used locally to combat this disease. It was an excellent paper on the recent advances made in the treatment of this condition.

It was discussed by Drs. Barson, Miller, Newman, Snyder, Lowdermilk, and Myers.

Meeting of February 14

The Society met at the Joplin Y. M. C. A. at eight p. m. with President John L. Sims in the chair

with twenty-eight members and eight visitors present. The minutes of the meeting of February 7 were read and approved.

The essayists of the evening were Drs. G. E. Knappenberger and R. C. Davis, Kansas City.

The first paper was presented by Dr. Knappenberger who discussed the heart, its size, shape and position. He particularly stressed the various enlargements of the heart's shadow in reference to the different valvular lesions.

He also discussed the aorta, its size and the different types of individuals; that is, the normal, the slender, and the short stocky types. He stressed the importance of examining the aorta in the lateral position in making a diagnosis of enlargement of the aorta.

Dr. Davis followed by discussing the heart in reference to electrocardiography. He showed the tracings of various cardiac arrhythmias, also the effects of valvular lesions. He stressed the importance of electrocardiography as a preoperative preparation for surgery, especially in patients in whom any form of cardiac arrhythmia was suspected.

Each paper was well presented and received the unanimous approval of all the members and guests present. A vote of thanks was given to the essayists.

Dr. Lloyd B. Clinton, Carthage, introduced Dr. Coffey, from Jefferson City, who submitted the proposition of a full time health program as proposed by the federal and state departments of health.

After much discussion pro and con a motion was made that the Society go on record as endorsing the plan. Seconded and carried.

Meeting of February 21

The Society met in the Y. M. C. A. at Joplin, at eight p. m. with President John L. Sims in the chair. Twenty-six members and eight guests were present. The minutes of the previous meeting were read and approved.

The application for membership of Dr. H. L. Wilbur, Granby, by transfer, was presented by the president and the secretary of Newton County Medical Society. Dr. Wilbur was unanimously elected a member of the Society.

The speakers of the evening were Drs. E. Lee Miller and E. R. Deweese, of Kansas City. They were introduced by Dr. S. A. Grantham, Joplin.

Dr. Miller spoke on "Surgery of the Gallbladder." He first discussed the anatomy and physiology in detail, then surgery, its indications and the character of the operation which was indicated. He stressed the importance of the Van den Bergh test in reference to diagnosis, also X-ray.

Dr. Deweese followed by giving a lengthy review on the subject of the gallbladder, taking up in detail the technic of visualization and the diagnosis of the various pathological conditions which this method has given the roentgenologist.

Meeting of February 28

The Society met at the Joplin Y. M. C. A. at eight p. m. with the President, Dr. John L. Sims, presiding. Thirty-seven members and twelve guests were present. The minutes of the meeting of February 21 were read and approved.

Dr. Sims introduced the essayists in the evening, Drs. G. Wile Robinson and W. M. Ketcham, of Kansas City.

Dr. Robinson presented a paper on "Relation of High Blood Pressure to Nervous Diseases." He called attention to getting the patient in the proper

attitude as a help in the treatment of these cases. He discussed the various hypnotics and sedatives, their use and abuse.

Dr. Ketcham presented a paper on "Endocrinology," particularly in reference to obesity, its endocrine cause and treatment. He illustrated this lecture by lantern slides, showing the various types as they exist in the individual.

These subjects were very interesting and brought forth a lengthy discussion from the following members: Drs. L. C. Chenoweth, S. A. Grantham, J. W. Barson, A. B. Clark, J. A. Chenoweth, E. D. Hatcher, R. M. James, and G. Kaemmerling.

Meeting of March 6

The Society met at the Y. M. C. A., Joplin, at eight p. m. The meeting was called to order by the President, Dr. John L. Sims. Twenty-five members and nine guests were present. The minutes of the meeting of February 28 were read and approved.

The essayists of the evening were Drs. George H. Hoxie and G. L. Harrington, of Kansas City.

Dr. Hoxie discussed "Exhaustion in Endocrinological Cases." He paid particular attention to pituitary, thyroid, adrenal and gonad types. He discussed the symptoms and treatment applicable to each type. He presented cases illustrating each type and combinations of some types.

Dr. Harrington gave a very interesting lecture on "Psychology in Medicine." He covered the field thoroughly and held the close attention of every member present.

Each subject was discussed at length by several members.

Meeting of March 13

The Society met at the Joplin Y. M. C. A. at eight p. m. Dr. John L. Sims, Joplin, President, presided. There were ten members and twenty-seven guests present. The minutes of the meeting of March 6 were read and approved.

The application of Dr. William S. Loveland, Joplin, formerly of Aurora, for membership by transfer from the Lawrence-Stone County Medical Society was presented by the secretary, Dr. Roy E. Myers, Joplin. Dr. Loveland was unanimously elected a member of the Society.

A very instructive film was presented by a representative of Parke, Davis & Company, Detroit, showing the procedures and precautions necessary in the manufacture of the various antitoxins, vaccines and other biological products.

Meeting of March 20

The Society met at the Y. M. C. A., Joplin, at eight p. m. with the President, Dr. John L. Sims, Joplin, in the chair. There were twenty-two members and thirteen guests present.

The minutes of the meeting of March 13 were read and approved.

The essayists of the evening were Drs. C. C. Conover and Frank R. Teachnor, of Kansas City. They were introduced by President John L. Sims.

Dr. Teachnor gave an interesting talk on "The Management of Skull Fractures and Brain Injuries." He talked of the different types of fractures of the skull and brain injuries resulting therefrom, and their management in regard to treatment. He also discussed the different types of brain hemorrhages, their diagnosis and treatment.

Dr. Conover followed with a lecture on "Subacute Endocarditis," illustrated with lantern slides.

Each lecture was very instructive and was discussed by many members present.

Meeting of March 27

The Society met at the Joplin Y. M. C. A. at eight p. m. with President John L. Sims in the chair and the following members present: Drs. J. W. Barson, L. C. Chenoweth, A. B. Clark, A. M. Gregg, R. M. James, S. H. Miller, R. E. Myers, R. L. Neff and J. L. Sims, Joplin; E. D. Hatcher, Carthage.

Guests: Dr. R. C. Lamson, Neosho, and Dr. Douglas, Webb City. The minutes of the meeting of March 20 were read and approved.

The application of Dr. Peter C. Kelley, Lanagan, for membership in the Society was received and referred to the board of censors.

Dr. A. M. Gregg, Joplin, the principal speaker of the evening, presented a paper on "The Changes of Urine a Primary Factor in the Treatment of Acute Bacterial Cystitis." He discussed the bacteriology of the types of cystitis and the reactions of the urine in relation to the kind of bacteria present, namely, the alkaline or acid medium in which they grow, and the advantages of changing the mediums in order to inhibit the bacterial growth of these various types.

This paper created a lively interest and was discussed by practically all members present.

ROY E. MYERS, M.D., Secretary.

THE KANSAS CITY ACADEMY OF MEDICINE

Meeting of February 10, 1928

MEDICAL CLINIC.—By DR. P. M. KRALL.
(Presented by Dr. A. M. Ginsberg.)

Case 1. A 43 year old man had thyroid enlargement for eight years, sore neck and dysphagia of one year duration. Examination revealed a unilateral thyroid adenoma as large as a grape fruit; pyorrhea; septic tonsils; edematous extremities; B. M. R. plus 13; hemoglobin 85 per cent.; red cell count 3,500,000; 3 plus albumin in the urine. Following tonsillectomy, removal of the teeth, and a course of iron and thyroid extract, the thyroid swelling disappeared and tests revealed B. M. R. minus 12; hemoglobin 80 per cent., red cell count 4,200,000. The edema disappeared.

Case 2. A young woman suffered with edema of the legs for 18 months. Became worse following the birth of a child two months ago. Urinary output was diminished to 240 cc. daily; albumin and an occasional erythrocyte. Laboratory report: Blood sugar 99, urea 45, N. P. N. 38, uric acid 4.6, creatinin 3.6. A week later there was no evidence of renal disturbance and the uric acid was 3.4, cholesterol 180, urine S. G. 1026 with $2\frac{1}{2}$ G. albumin per liter.

In 1914 Volhard and Fahr described nephritis of inflammatory origin, and nephrosis as an entity which many believe is degenerative in nature. This is an uncomplicated case of nephrosis. With the nephrosis described by Epstein there is a high blood cholesterol, doubly refractive urinary bodies, normal N. P. N., and with but few exceptions normal phenolsulphonphthalein tests.

DISCUSSION

DR. I. J. WOLF: Aschoff does not agree with Volhard and Fahr. I have never in forty years seen a case I could not call nephritis and I believe the distinction is too finely drawn between nephritis and nephrosis. Even the case just presented is a mixture of nephrosis and nephritis.

DR. F. C. HELWIG: In a case of Epstein's nephrosis

reported recently by Dr. Major and myself, there was marked edema and a high blood cholesterol. At autopsy there was evidence of focal lipid infiltration of the kidneys.

DR. A. C. GRIFFITH: Dr. Burkhard and I examined this patient. Her aunt had Bright's disease. There is usually an hereditary tendency in such cases. While this case is classified as a nephrosis, I feel that the border line between this and nephritis is very narrow.

DR. KRALL, in closing: Perhaps bacteria play a part in nephrosis. Volhard and Fahr's classification is valuable in the treatment of these cases. Epstein supposes colloid disturbances are involved. The cholesterol findings are as yet not clearly understood.

DERMATOLOGICAL CLINIC.—By DR. PAUL F. STOOKEY.

Case 1. For eleven years this man has had intermittent urticarial reactions, anaphylactic in character, on the exposed body surfaces. I believe the agent is air borne.

DISCUSSION

DR. D. D. SPOFER: Thermal changes are responsible for some cases of asthma and also for urticarial reactions. I have had patients with heat asthma respond nicely to treatment by means of baths with graduated increase in the temperature of the water.

DR. ELLIS W. WILHELMY: This patient had negative pollen tests. We see similar cases with temperature variations from 94° to 98.6°, accounted for only by thermal changes. While this man's condition is better on the fifth floor than on the floor below this does not suggest pollen sensitivity because we found as much pollen on the eighteenth as on the ground floors. Furthermore, no pollen was demonstrable on glycerin-covered slides in winter, and this man is as bad then as in summer.

Case 2. This patient, presented through the courtesy of Dr. Monahan, shows typical lupus vulgaris. Tuberculosis of the skin is not as common in America as in Europe.

DISCUSSION

DR. E. P. MONAHAN: This patient was apparently benefited by cauterization.

DR. LYNN B. GREENE: Tuberculosis of the skin is found oftener in colored people than in white. Cauterization with caustics may cause deformity. Treatment by means of the quartz lamp, dessication and electric coagulation seem to help.

DR. HIRAM D. NEWTON: I would suggest a trial of potassium iodide and neosalvarsan.

Case 3. This is a case of lupus erythematosus which has improved under intravenous treatment with gold and sodium thiosulphate. However, in another patient similarly treated, the condition was aggravated, hence the prognosis must be guarded. About a year ago Shambey reported a series of 30 cases treated with gold with good results.

DISCUSSION

DR. E. H. DECKER: Dr. Stookey is probably the first physician in Kansas City to use gold thiosulphate in the treatment of such cases.

DR. STOOKEY: Because of the frequency of carcinomatous degeneration of the scars in such cases treated by X-ray this form of therapy is questionable.

Case 4. This woman has had a papular eruption over the elbows, buttocks and shoulder blades for twelve years: There is itching, healing with scar

formation and pigmentation,—a typical case of dermatitis herpetiformis. Contrary to the rule, this patient was free of symptoms during pregnancy.

DISCUSSION

DR. MONAHAN: Usually these patients break out early in pregnancy and the symptoms reach their climax at term. Indicanuria and eosinophilia are commonly found with dermatitis herpetiformis.

Case 5. This patient had a typical chancroid and general lymphadenopathy and after about fifteen days there was a positive blood Wassermann and a positive dark field from the primary lesion. Practically all ulcers confined to the urinary meatus or to the shaft of the penis are specific. They should not be confused with infections at the frenum that undergo secondary ulceration. In the army in France, 35 per cent. of the ulcers were chancroids; here only about 10 per cent. are chancroids.

Meeting of February 24, 1928

GASTRIC RESECTION FOR PEPTIC ULCER.—By DR. W. M. MILLS.

Gastric resection for chronic peptic ulcer is done routinely in European clinics. Heretofore, after the usual medical management and removal of focal infection, opinions as to surgical treatment differed.

Aschoff gives these causes of gastric ulcer: (1) Acute mucosal erosions due mainly to circulatory disturbances from arterial blocking of spastic, embolic or arteriosclerotic nature rather than toxic infections or mechanical factors or chemical factors; (2) chronic gastritis.

The origin of duodenal ulcers is attributed to the fixation of the mucous membrane of the posterior wall of the first and second portion with its exposed position to acid chyme.

Multiple ulcers exist in 22 per cent. of cases and carcinoma in 14 per cent. Gastro-enterostomy results vary from 37 per cent. to 88 per cent. cured, with many recurrent symptoms and marginal ulcers. Gastrectomy leads to a permanent reduction of acidity, prevents later hemorrhage, perforation or malignant degeneration, prevents malignant being mistaken for simple ulcers, multiple ulcers will not be overlooked and marginal ulcers are less likely to occur.

Haberer's technic: Local infiltration of the abdominal wall and splanchnic anesthesia. Resection of at least half of the stomach, and in cases of duodenal ulcer resection of the portion including the ulcer. Union by Billroth I or Haberer's terminolateral modification.

Most deaths occur eleven to fifteen days after operation from subphrenic abscess and confluent pneumonia. General peritonitis and gastric hemorrhage are rare. The mortality varies from 1.6 per cent. to 10 per cent. Marginal ulcers occur in 1 per cent. and recurrent ulcers twice in Haberer's 2,000 cases. Deaver, Crile, Horsley and Moynihan favor this type of operation, showing that the European tendency toward radical surgery is becoming more universal.

DISCUSSION

DR. B. W. MYERS: Two technical points in gastric resection are, difficulties with the loop, and with the location and size of the orifice. No. 1 chromic is better than the old linen suture, and Moynihan uses six cipher catgut.

DR. H. S. VALENTINE: Balfour described ulcers of three sizes. The smallest are seldom carcinomatous. The others may be excised as potentially cancerous. Duodenal ulcers are less apt to become cancerous.

DR. T. G. ORR: Peptic ulcer is more difficult to me than gallbladder surgery. Medical methods should be thoroughly tried at first. The choice of operation depends upon what is found on the table, and resection is a bigger operation than gastro-enterostomy.

DR. MILLS, in closing: The quarrel seems to be among the surgeons themselves and not between the medical men and the surgeons. The skill of operators who do a large number of cases apparently accounts for the lower mortality with gastric resection.

INDUCTION OF LABOR.—By DR. THEODORE ASCHMAN.

A woman near term should be examined in order to estimate the time of onset of labor. Many primipara are benefited by induction, eliminating the long hard labors due to disproportion. The obstetrician must use his own judgment and work out his own system of measurements. About 5 per cent. of cases have been border line cases—justo minor pelvis. Unnecessary interference, however, is undesirable.

In 100 cases there were 21 inductions with 2 failures. Castor oil and quinine, and pituitrin in small doses by hypodermic, were used followed by the Voorhees bag. Watson reported 90 per cent. of cases successful and 6 per cent. fetal but no maternal mortality. Hofbauer and Hoerner use nasal applications of pituitrin "after the uterus has become sensitized by castor oil and quinine." Contractions usually occur before twenty minutes and the cotton pledgets used as applicators are replenished about once an hour. Coryza may be a local complication.

Mathieu uses only 3 m. of pituitrin in contra-distinction to Watson's 1 cc., with 96.7 per cent. successful results and no fetal mortality. W. A. Scott believes no method of induction absolutely free from danger, but castor oil, quinine, pituitrin are practically free from danger when properly administered. F. S. Newell uses the bag before term for toxemia. John Polak prefers section to induction for contracted pelvis.

The general practitioner should not attempt using the bag or bougie because of danger from dislodgment of the presenting part, rupture of the membranes, prolapse of the cord, concealed hemorrhage, and injury to the cervix.

My own technic: Castor oil 3 ounces. After bowel action, quinine bisulphate 5 grains, repeated every hour for four doses, and two more if the patient is not too sensitive. Warm water enema after the third dose. Patient up and around. If no results, rest 24 hours and repeat routine. If delay is undesirable, insert bag without anesthetic. Small doses of pituitrin are given only to multipara.

DISCUSSION

DR. J. M. SINGLETON: In the clinic we see patients at or past term and develop a sense of determining when they have gone over time. Sometimes $\frac{1}{2}$ cc. hypodermic of pituitrin causes too powerful contractions, especially in primiparae, and Watson's large doses of quinine are frequently not so desirable. I prefer the bag, cervical catheter and pack, particularly in primiparae. Even when pituitrin is given intranasally there may be powerful contractions. What vaginal preparation does Dr. Aschman make for bag induction?

DR. RALPH R. WILSON: Obstetricians must be conservative because no other department of medicine depends so much upon actual clinical sense. Every induced labor actually violates the law of nature, trying to force the uterus to contract with an unre-

moved potential obstruction. Perhaps the bag is the best. Caesarian section may be better than induction of labor in some premature cases.

DR. ASCHMAN, closing: Preparation is accomplished by washing the vagina and painting with 10 per cent. mercurochrome. Dilation is done with the finger, sound and dilators.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The meeting of the Lawrence-Stone County Medical Society was held at the City Hall, Aurora, March 6, 1928, at 2 p. m. The following officers were elected for 1928: President, W. J. Bryan, Mt. Vernon; vice president, T. D. Miller, Aurora; secretary-treasurer, R. D. Cowan, Aurora; delegate to the State Meeting, R. D. Cowan, Aurora; alternate, P. A. Holmes, Mt. Vernon; censor, F. S. Stevenson, Aurora.

Dr. P. A. Holmes, Mt. Vernon, read a paper on the "Common Cold." This subject was discussed by all members present.

Dr. H. L. Kerr, Crane, gave a splendid talk on "Medical Affairs of Missouri," which was discussed by all present.

The next meeting will be held in Mt. Vernon, June 5.

R. D. COWAN, M.D., Secretary.

LACLEDE COUNTY MEDICAL SOCIETY

The Laclede County Medical Society, with their wives, met at the Lotus Cafe, Lebanon, March 10, 1928, where a sumptuous dinner was served. Vice President, T. B. Herbert, Lebanon, presided. Members present: Drs. J. M. Billings, S. A. Casey, H. A. Hamilton, T. B. Herbert, J. A. McComb, J. G. Scott, and their wives, of Lebanon. Visitors: Dr. T. H. Casey and wife, Lebanon; Drs. F. T. H'Doubler and U. J. Busiek, of Springfield; Drs. H. C. Murphy and E. A. Oliver, of Richland; Dr. John Molder and wife.

The following officers were elected for 1928: President, Wm. O. Pool, Stoutland; vice president, T. B. Herbert, Lebanon; secretary-treasurer, J. M. Billings, Lebanon; delegate, C. E. Carleton, Stoutland; alternate, J. W. Lindsay, Conway.

After spending an hour at the table in a social way as well as causing the menu to disappear, the physicians retired to the Honorable T. L. Ruby's office and the ladies spent the evening at the theater.

We were pleased to have with us Drs. F. T. H'Doubler and U. J. Busiek, of Springfield, who gave very interesting talks. Dr. H'Doubler spoke on thyroid disease; Dr. Busiek on diphtheria. The latter was along the lines of immunization.

The addresses were enjoyed very much by those present and we hope to have them again sometime in the future.

Some time was spent in discussion after which the meeting adjourned.

J. M. BILLINGS, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met in regular session Friday, March 9, 1928, in the offices of the county medical bureau, Maryville. The meeting was called to order at 7:30 p. m. by the President, Dr. H. S. Maxwell, Hopkins. The attendance was rather small because of the muddy roads and inclement weather. The following members were present: Drs. C. T. Bell, K. C. Cummins, L. E.

Dean, C. P. Fryer, C. V. Martin, R. C. Person, F. C. Wallis and Wm. M. Wallis, of Maryville; C. D. Humbert, Barnard; H. S. Maxwell, Hopkins. Dr. Minford A. Hanna, Kansas City, an obstetrician and gynecologist, through the courtesy of the Kansas City Southwest Clinical Society, was a guest of the Society. The minutes of the regular meeting of February 10, were read and approved.

The financial report of the treasurer was given only in part, due to the absence of the treasurer, Dr. H. S. Dowell, Maryville. Dr. C. T. Bell, Maryville, moved that the treasurer's report be accepted in part, and that the secretary be instructed to get in touch with Dr. Dowell before the next meeting and place the Society's funds into one general account.

The motion was seconded by Dr. L. E. Dean, Maryville, and carried.

Our financial standing to date is, 21 out of 30 members paid for 1928, three members being delinquent for 1927.

The secretary read his correspondence for February. It has come to our attention that Dr. S. E. Metheny, whose application for membership in the Society by transfer from Lancaster County, Nebraska, was returned in January, 1928, to Dr. Munger, Lincoln, Nebraska, because of the lack of knowledge as to the applicant's whereabouts, is the physician-in-chief at the Nichols' Cancer Sanatorium of unsavory reputation at Savannah, Mo.

Dr. H. S. Maxwell, Hopkins, invited the Society to hold its May meeting at Hopkins, with the members as his guests.

Dr. L. E. Dean, Maryville, moved that Dr. Maxwell's invitation be accepted. Seconded by Dr. Wm. M. Wallis, Maryville, and carried.

Dr. Maxwell then extended the invitation to include the wives of the members and expressed a hope that the meeting would result in the organization of a Woman's Auxiliary.

Dr. C. V. Martin, Maryville, suggested "Chronic Endocarditis," and Dr. C. T. Bell, Maryville, "Goiter," as subjects for the future consideration of the Society.

The meeting was then turned over to Dr. Minford A. Hanna, Kansas City, who read two papers. The first of these papers concerned "The Kielland Forceps" giving in detail their invention, history, and manner of use. Abstracts were given from the literature, illustrated with lantern slides. Dr. Hanna related his experiences in three cases in which delivery had been effected with the Kielland forceps. He told of his talks with Dr. Polak about them, and gave emphatic reasons as to why they were not suitable, without special training and experience, for routine use. Dr. Hanna exhibited a pair of the forceps and answered questions concerning them.

Dr. Hanna's second paper was a didactic essay on "Chronic Endocervicitis." He gave the etiology of this disease, reviewed the anatomy of the cervical walls and canal, and took up the treatment in detail, illustrated with lantern slides, of various stages of the condition. He also exhibited a new office type cautery.

Dr. Hanna also presented motion pictures of a Cesarean section for acute endocarditis, done under local anesthesia.

Both of Dr. Hanna's papers were thorough, very ably and pleasantly presented and were exceptionally interesting. Dr. Hanna, in addition to his complete mastery of his subject and material, possesses a surprising and rare talent as a pedagogue and educator, and the minds of his listeners easily reverted to medical college days with Dr. Hanna as instructor.

The second paper, "Chronic Endocervicitis," was

discussed by Dr. L. E. Dean, Maryville, who told of his routine treatment with a nasal type cautery under local anesthesia with 10 per cent. cocaine.

Dr. H. S. Maxwell, Hopkins, related the medicinal measures used in his office.

Dr. C. V. Martin, Maryville, expressed the Society's appreciation of Dr. Hanna's papers and Dr. Hanna tendered the Society a very gracious compliment on the attention and interest shown his topics and on the alert and inquiring attitude of our members toward his ideas, and for the reception which had been accorded him.

C. D. HUMBERT, M.D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The Pettis County Medical Society met at a banquet at the Sedalia Country Club Monday, March 19, 1928, at 6:30 p. m.

Twenty-three physicians attended. Visitors: Drs. William E. Johnson, Linn J. Schofield, Oscar B. Hall, Wm. R. Patterson and Thomas J. Draper, Warrensburg. Guests: Drs. Alphonse McMahon and Otto J. Wilhelmi, St. Louis.

Dr. Alphonse McMahon read an instructive paper on "Heart Disturbances in Thyroid Disease."

Dr. Otto J. Wilhelmi gave an interesting talk on "Urological Aids for the General Practitioner."

These papers were well presented and enjoyed by all. A discussion followed each address, participated in by a number of local men as well as by our visitors from Warrensburg.

Drs. McMahon and Wilhelmi were sent by the Postgraduate Committee of the State Association.

F. B. Long, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The Pike County Medical Society met at luncheon in the private dining room of the Wahl Hotel, Louisiana, Monday evening, March 12, 1928.

Dr. T. Guy Hetherlin, Louisiana, was elected president of the Society to fill the vacancy caused by the death of Dr. Phillip P. Burton, New Hartford, on March 10.

Matters pertaining to the interests of the Society and the Pike County Hospital of which members of the Society will constitute the medical staff, were discussed.

Members present were: Drs. R. L. Andrae, Louisiana; C. L. Bankhead, Paynesville; J. E. Bankhead, Clarksville; M. O. Biggs, Louisiana; J. W. Crewdson, Louisiana; Eric A. Cunningham, Louisiana; R. J. Gay, Bowling Green; T. Guy Hetherlin, Louisiana; C. P. Lewellen, Louisiana; D. M. Pearson, Louisiana; C. D. Scott, Louisiana; O. W. Snodgrass, Frankford; T. Hurley Wilcoxon, Bowling Green. Visitors: Drs. L. Paxton Guy, Eolia; I. H. Miller, Louisiana.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society February 28, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson.

A case of "Carbon Monoxide Poisoning" was presented by Dr. Sam E. Peden.

The regular scientific program consisted of the following:

"Glucose in the Treatment of Acute Encephalitis and Allied Toxic States," Dr. Leland B. Alford.

"The Use of Glucose in Chronic Encephalitis," Dr. R. C. Fagley.

Discussion by Drs. H. J. Scherck, Hillel Unter-

berg, M. W. Hoge; Drs. Alford and Fagley closing. "Malignant Tumors of the Nasopharynx and Their Relation of Neurology," Dr. French K. Hansel. Discussion by Drs. L. B. Alford, George Ives; Dr. Hansel closing.

The program for the meeting of March 6, 1928, was read by the president.
Attendance 60.

Meeting of March 6, 1928

The meeting was called to order at 8:35 p. m. by the first vice president, Dr. Drew Lutten.

The minutes of the previous meeting were read and approved.

A specimen of "Early Adenocarcinoma of the Uterus" was exhibited by Dr. George Gellhorn.

The regular scientific program consisted of the following:

"A Working Hypothesis as to the Cause and Prevention of Infantile Paralysis," Dr. Marsh Pitzman. Discussion by Dr. Sidney I. Schwab.

"A Reliable Method for the Control of Hemorrhage in Placenta Previa," Dr. William Kerwin. Discussion by Dr. George Gellhorn.

"Incisional Hernia," illustrated with lantern slides, Dr. Francis Reder.

Discussion by Dr. William T. Coughlin.

The program for the meeting of the Society on March 13 was announced.

Attendance 200.

Meeting of March 13, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson.

The minutes of the meeting of March 6, 1928, were read and approved.

The scientific program was given under the auspices of the Trudeau Club and consisted of the following:

"Clinical and Hospital Facilities for Tuberculous Patients in St. Louis," by Dr. Louis C. Boisliniere. "The Schilling Blood Differential Count in Tuberculosis," Dr. Joseph F. Bredeck.

Discussion by Drs. H. I. Spector, George Kettlekamp, Seelig Simon; Dr. Bredeck closing.

Dr. Boisliniere presented the following resolution for the Trudeau Club and moved its adoption. Seconded by Dr. Wm. G. Wood. Discussion by Dr. Howard H. Bell. Carried.

"Whereas, there has been a growing demand for more beds for tuberculous patients in the last few years, which has reached a stage of acuteness, and demands immediate action by the City of St. Louis.

We have no available beds at the present time at Koch Hospital, City Hospital No. 1, or City Hospital No. 2, for the indigent and acutely sick tuberculous patients. There are numerous patients who cannot be hospitalized in any institution because there are no available beds. Most of these people are in urgent need of hospitalization as they have inadequate home facilities, and are a menace to their families and the community, and are forced to suffer unnecessarily because they have neither medical nor nursing care. Many of them are in such condition that they cannot be properly cared for in their homes, and require hospital care. The most acute public health problem today in St. Louis is tuberculosis.

We recommend and strongly urge that Koch Hospital be not diverted from its policies of the past eight years; namely, not to admit moribund and hopeless cases of tuberculosis. These patients should be cared for, and properly so, in a special pavilion in City Hospital No. 1 and City Hospital No. 2. Since there are such sick, and in many instances moribund cases, we feel that wards are not suitable for their

care, and a sufficient number of single rooms must be provided for the dying and the very acutely ill in order that they do not discourage the other sick tuberculous patients in the same building and section of the hospital.

There should be at least one hundred beds provided at City Hospital No. 1 for the care of advanced pulmonary tuberculosis patients. These patients should be in a separate building in order to maintain sanatorium regime. The same provision for one hundred beds should be made for colored patients at City Hospital No. 2.

We further recommend that smallpox cases be removed from Koch Hospital, which should be maintained solely as a tuberculosis sanatorium. Smallpox cases properly belong at Isolation Hospital, and this recommendation has been made officially, at least, since 1919.

We recommend that Koch Hospital should be developed along the lines and plans made several years ago. These plans received the official endorsement of the National Tuberculosis Association, and should be carried out.

We discourage the erecting of temporary buildings and make shift buildings at Koch Hospital. All developments at this institution should be permanent and substantial additions, along recognized plans, already made, and carefully thought out by some of the best authorities in this country.

Koch Hospital needs buildings for the care of patients, an administration building, a building for employees, and a building for doctors and nurses. It also needs buildings for colored patients and children. These are all urgent needs. This institution is worthy of every consideration and every aid. It is doing excellent work in the care of the unfortunate sufferers from tuberculosis. We feel that the medical profession, in general, and others, should take greater interest in this institution, and should make it their duty to further its development.

In order to carry out these recommendations money is necessary, and it is impossible to get sufficient money from the current revenue of the city to carry out the plans. There is only one method open to obtain the sums necessary to carry out the work, and that is a bond issue. A bond issue is urgent, and must be presented to the citizens of St. Louis as soon as possible for their vote. The people of this city have never turned a deaf ear to any recommendation made for the proper care of the unfortunate sick in this community. A bond issue is important and urgent, and we recommend the following sums for the erection and equipment of buildings at the following institutions:

Koch Hospital	\$1,750,000.00
City Hospital No. 1.....	350,000.00
City Hospital No. 2.....	350,000.00

This resolution was unanimously adopted by the Trudeau Club. It was moved, seconded, and carried to present this resolution to the St. Louis Medical Society for discussion, with the hope that the Society would indorse the same.

If the St. Louis Medical Society indorses the resolution, a motion would be in order for the President to appoint a committee to call on the Mayor, the Director of Public Welfare, the Health and Hospital Commissioners, to inform them of and discuss with them the action taken by the Medical Society with the aim of formulating steps to be taken in order to realize the need expressed in the body of this resolution."

Respectfully submitted,
TRUDEAU CLUB.

March 1, 1928.

Following the offering of the resolution and its

adoption, Dr. Louis C. Boisliniere presented a list of the hospital facilities for tuberculosis patients in St. Louis city and county. From this report we find that there are about 620 beds for tuberculous patients in St. Louis with a few available beds at Mt. Vernon, Missouri, for early cases. The lack of beds for colored patients is particularly striking.

Dr. Boisliniere also presented the following resolution, which was adopted:

"Whereas, the Tuberculosis Commissioner assures the Society that he will do all in his power to sedulously conserve the interest and right of physicians reporting open cases of tuberculosis and that the rights and interests of the patient will not be encroached upon; therefore be it

"Resolved, That the St. Louis Medical Society extend its hearty cooperation to him by promptly reporting all open cases of tuberculosis and thus comply with the statutory law that requires such reporting."

Attendance 150.

ROLAND S. KIEFFER, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met in the Webster Groves Trust Company, Webster Groves, March 14, 1928. The meeting was called to order by the President, Dr. F. P. Knabb, Valley Park, at 3 p. m. with the following members present: Drs. J. H. Armstrong and D. H. Hanson, of Kirkwood; H. N. Corley, C. C. Irick, Horine Miles and Wm. F. O'Malley, of Webster Groves; Garnett Jones and Otto W. Koch, of St. Louis; F. P. Knabb, Valley Park; R. B. Denny, Creve Coeur; O. N. Schudde, Ferguson; J. A. Townsend, Eureka; E. E. Tremain, Maplewood.

The scientific program presented by Dr. Anthony B. Day, St. Louis, on "Early Diagnosis of Tuberculosis," illustrated with lantern slides, was very instructive. A discussion followed.

A business meeting was then called and a vote of thanks was given Dr. Day.

A motion was made and unanimously carried endorsing the educational campaign of the St. Louis, State, and National Tuberculosis societies.

A motion was made and carried for the president to appoint a committee to attend a meeting on the County Hospital, March 16, at the St. Louis County Court House. The following were appointed: Drs. H. N. Corley and Wm. F. O'Malley, Webster Groves; J. H. Armstrong, Kirkwood; F. P. Knabb, Valley Park, E. E. Tremain, Maplewood.

A motion was made and carried that Dr. Otto W. Koch, St. Louis, represent the St. Louis County Medical Society in the St. Louis Tuberculosis Society.

There being no further business the meeting adjourned.

E. E. TREMAIN, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society honored one of its members on Wednesday evening, March 7, 1928, with an elaborate banquet at the Hotel Ruff in Marshall, in recognition of that member's having completed fifty years in the practice of medicine in Saline County. The member so honored was Dr. Francis Aubrey Howard, Slater, President of the Saline County Medical Society. Dr. Howard took up the practice of his profession at Slater in 1878, when the town was a country village and Saline County was sparsely settled. He went through all the hardships of the physician in that early day of the county's

history. For many years he has been the local surgeon for the Chicago and Alton Railroad Company which maintains a division point at Slater.

Dr. D. F. Manning, Marshall, presided as toastmaster. Judge John A. Rich and Com. P. Storts, Slater attorneys, spoke in honor of their townsman. Honorable George H. Williams, St. Louis, former United States Senator, also spoke. Senator Williams is a nephew of Dr. Howard.

At the close of the meeting, Dr. Howard expressed his appreciation of the occasion in words that were vibrant with emotion. He laid much stress upon the fact that whatever success he had attained in the practice of his chosen profession his wife should bear the major portion of the credit. He spoke in the words of Lindbergh regarding his career of fifty years in medicine in the terms of "We."

There were fifty-three physicians, their wives and guests present at this banquet.

H. R. CONWAY, M.D., Secretary.

ST. FRANCOIS COUNTY MEDICAL SOCIETY

The St. Francois County Medical Society met at State Hospital No. 4, Farmington, March 15, 1928. Drs. Claude D. Pickrell and Virgil Loeb, St. Louis, and the dentists of the county were guests of the Society. The following were present: Drs. W. H. Barron and M. B. Barber, Fredericktown; J. P. Yeagain, Irondale; W. E. Aubuchon, Leadwood; T. E. McGurk and David Smith, Bonne Terre; B. J. Robinson, O. A. Smith, Reuben Appleberry, E. F. Hctor, Ralf Hanks, C. R. Buren and P. S. Tate, Farmington. Dentists, Drs. John Robinson, Farmington; Hicks Matkins, Bonne Terre; E. L. Horton and Lee Raiden, Farmington.

Dr. Virgil Loeb, St. Louis, read an interesting paper on "Focal Infection." This is a big subject and enters into nearly every case in some way.

Dr. Claude D. Pickrell, St. Louis, addressed the Society on "Urology."

These papers were well discussed and many interesting points were brought out.

The application of Dr. Paul L. Jones, Elvins, by transfer from the St. Louis Medical Society, was read and approved and Dr. Jones was elected a member of the Society.

Dr. P. S. Tate, of State Hospital No. 4, Farmington, was elected a member by transfer from Scott County.

The application by transfer from Butler County of Dr. Arnold Traubitz, Leadwood, was approved and he was elected to membership.

The application of Dr. Van W. Taylor, Leadwood, was also approved and he was elected a member.

Dr. David E. Smith, Bonne Terre, was elected to membership by transfer from Mississippi County.

For the first time St. Francois County Medical Society appears on the Honor Roll in the State Association Journal. Members are taking a very active interest in the work of the Society and the Postgraduate Committee of the State Association has sent us several speakers. All our meetings have been enthusiastic and full of interest. Future meetings already arranged for will provide further programs that cannot fail to be stimulating.

R. APPLEBERRY, M.D., Secretary.

DAVISS COUNTY MEDICAL SOCIETY

The members of the Daviess County Medical Society were guests of the Gallatin Rotary Club at a 12:00 o'clock dinner, March 13, 1928.

Dr. J. D. Dunham, Pattonburg, our eldest and

esteemed member, who was awarded a lifetime membership in our Society as well as the Missouri State Medical Association in May, 1927, has been tendered the office of president of the Daviess County Medical Society continuously so long as he shall live—or during good behavior!

At the close of the dinner Dr. J. D. Dunham was called upon to speak and he made a most masterly address covering a period of some fifty-one years that he has been engaged in the practice of medicine and surgery in Daviess County.

Dr. C. C. Conover, Kansas City, talked of the wonderful progress made in medicine and surgery during the past fifty years.

Mr. L. M. Hosman, superintendent of the Gallatin public school, paid a very beautiful tribute to the profession of medicine and surgery, in that it was scientific and that the profession was controlling the most of our dreaded diseases.

The doctors expressed themselves as having enjoyed the entertainment and the social hours spent with the Rotary Club.

At 2 p. m. the medical body met in the American Legion rooms and carried out one of their regular programs. Members present: Drs. J. D. Dunham, Frank Hedges, John Z. Parker, and Paul C. Smith, of Pattonsburg; P. L. Gardner and M. A. Smith, of Gallatin; J. L. Reich, Altamont; N. M. Wetzel, Jameson; A. G. Minnick, Lock Springs; R. V. Thompson, Jamesport. Drs. C. C. Conover and J. H. Ogilvie, of Kansas City, were guests.

Officers elected for 1928 are: President, J. D. Dunham, Pattonsburg; vice president, J. L. Reich, Altamont; secretary-treasurer, M. A. Smith, Gallatin; delegate, L. R. Doolin, Gallatin; alternate, Frank Hedges, Pattonsburg; reporter, N. M. Wetzel, Jameson.

Dr. L. R. Doolin, Gallatin, was absent because of the death of a relative.

Dr. J. H. Ogilvie, Kansas City, delivered a splendid address on the subject of goiter, covering a large field of differential symptoms, and gave a great many facts of diagnostic value. The members entered into a hearty discussion and many points of interest and great value were brought out.

Dr. C. C. Conover, Kansas City, in his usual instructive way, described the damaging effects upon the heart of many acute and chronic diseases showing by lantern slides the effects of endocarditis. Dr. Conover dwelt a great deal upon the effect of syphilis, tuberculosis, and rheumatic fever upon the heart, and the pathology of the human body, and expressed the doubt that anyone afflicted with any of these diseases ever recovered.

The Society is taking on new activities and will from time to time not only warn the people of the permanent injury done by many different diseases, but will instruct the laity as how to prevent disease and sickness.

N. M. WETZEL, M.D., Reporter.

BOOK REVIEWS

INFECTIOUS DISEASES AND ASEPTIC NURSING TECHNIQUE. A Hand-Book for Nurses. By Dennett L. Richardson, M.D., Superintendent of the Providence City Hospital, Providence, R. I. 12mo of 182 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$1.50 net.

EVERYWOMAN A NURSE. By Edith Newsome, S.R.N., Member of Roy. Brit. Nurses' Assoc., etc. Oxford

University Press. American Branch, 35 West 32nd St., New York City. 1927. Price \$1.25.

There are two kinds of books for nurses in use today. The one kind assumes that the nurse is in no sense a doctor; that she has her hands full without knowing anything about blood chemistry, physical diagnosis and operative technic. This sort of book is usually written by an old experienced nurse.

The other kind of nurses' book attempts to cover the whole field of medical knowledge as it exists today, but in a superficial and amateurish way. This sort of book is usually written by a doctor.

Newsome's book is a good example of the first variety of book. It covers the whole field in a concise and practical manner and is a valuable book for a serious minded nurse.

Richardson's book is an extreme example of the other kind of book. A woman can be a very good nurse without reading this sort of book. An ambitious nurse, however, who likes her work and who has the capacity of enjoying an intellectual effort, will find great pleasure in it. W. C. G.

DIATHERMY WITH SPECIAL REFERENCE TO PNEUMONIA. By Harry Eaton Stewart, M.D., Formerly Attending Specialist in Physiotherapy, U. S. Marine Hospital, N. Y., Consultant in Physiotherapy U. S. V. B. Hospital, New Haven, Conn., et al. With forty-five illustrations and fifteen charts. Second edition, revised. Paul B. Hoeber, Inc. New York. 1926. Price \$3.00.

This book aims to bring before the reader the physics and technic of diathermy, especially with reference to the treatment of pneumonia. That part which treats of diathermy only is well written and easily understandable by the doctor who has some knowledge of medical electricity. The statements in the main coincide with what has already been written on the subject. That part which pertains to the treatment of pneumonia is interesting although not always convincing, at least not convincing to the internist who as yet has found little of favor in the field of physical therapeutics. The author apparently has done some sound research work along this line of treatment which seemingly has been confirmed by several others who have attempted the same line of treatment. The book can be recommended to a beginner in the field of physical therapeutics.

F. H. E.

VISUAL FIELD STUDIES. By Ralph I. Lloyd, M.D., F.A.C.S. Surgeon, New York Ophthalmic Hospital, etc. 124 illustrations. 1926. The Technical Press, New York. Price \$6.00.

This small book gives an excellent though brief history of perimetry and some of the methods in use together with an interpretation of the findings. While not dealing extensively with the instruments used nor with the anatomy and the physiology of the visual apparatus it does give a good general view of the subject. Much attention is naturally given to the alterations in the peripheral field as well as the blind spot. There is but little attention paid to the part of the field supplied by the maculopapillary bundle of fibers supplying the central part of the field. It seems to the reviewer that this part is not given the attention that it merits.

The portion devoted to sinus involvement is not satisfying nor does the author have a cheerful outlook even when these cases are discovered early.

The book deserves a place in every ophthalmologist's library. F. E. W.

THE MODERN TREATMENT OF HEMORRHOIDS. By Joseph Franklin Montague, M.D., F.A.C.S., of the Rectal Clinic, University and Bellevue Hospital Medical College. Foreword by Harlow Brooks, M.D., F.A.C.P., Professor of Medicine, University and Bellevue Hospital Medical College. 116 illustrations. J. B. Lippincott Company, Philadelphia and London. 1926. Price \$5.00.

The outstanding feature in Dr. Montague's new book is his estimate of the relative value of the various methods now in vogue for the treatment of hemorrhoids. The time is ripe for such a book, as the profession is becoming interested in methods heretofore more or less relegated to the quack, namely, the injection and electrical methods.

It is not from the enthusiastic exponent of a particular method that we get the most wholesome counsel, but from a man such as Dr. Montague who with vast material at his disposal deliberately and without prejudice sets out to determine the most satisfactory methods of procedure. His conclusions may be outlined as follows:

1. For the usual run of hemorrhoids, the ligature method is the safest, the least painful and the most efficient; it is the *only method for the external hemorrhoid*.

2. The *uncomplicated* internal hemorrhoid lends itself to a wider variety of methods—ligature, clamp and cautery, injection and electrical:

(a) The clamp and cautery has no advantage over the ligature; it is decidedly more painful, demands a general anesthetic and is more apt to be followed by hemorrhage. (b) For the patient who insists upon being "cured without the knife" and prefers weeks of office treatment to a few days hospitalization, the injection method affords excellent results in suitable cases.

Indications: Uncomplicated internal hemorrhoids.

Contraindications: External hemorrhoids of all varieties, complicated internal hemorrhoids. As there are comparatively few uncomplicated internal hemorrhoids with symptoms the field for this method is limited.

(c) Through twenty pages he discusses the various electrical methods only to sum them up as unsurgical. He says "cutting is infinitely preferable to a method that involves the production of a slough" and that, while sloughing and cicatrization does effect a cure, he cannot agree with the claim made by advocates of these methods in respect to the complete absence of pain hemorrhage or other undesirable postoperative features, his own experience being quite to the contrary.

Such outspoken conclusions from a man with so wide an experience are well worth the consideration of every physician and surgeon. R. D. A.

DIAGNOSIS AND TREATMENT IN DISEASES OF THE LUNGS. By Frank E. Tylecote, M.D., D.P.H. (Vict.), F.R.C.P. (Lond.) Honorary Physician to the Manchester Royal Infirmary, etc., and George Fletcher, M.A., M.D. (Glas.), M.R.C.P. (Lond.), D.P.H. (Camb.) Assistant Tuberculosis Officer, Lancashire County Council, etc. Oxford University Press. American Branch, 35 West 32nd Street, New York City. 1927. Price \$2.25.

The authors aim to present the subject of diagnosis and treatment of the more common lung diseases from the viewpoint of the general practitioner. Great stress is laid on diagnosis and treatment and little space is given to etiology and pathology. The authors devote consider-

able time to the discussion of pulmonary tuberculosis.

It is of interest to mention that they believe that annular shadows are not cavities but pleural rings, thus disagreeing with Dunham. These authors also believe that tuberculin is not of value diagnostically.

The subject is presented in such concise form that the book will be of great help not only to general practitioners, but also to medical students. H. I. S.

HANDBOOK FOR THE MEDICAL SOLDIER of the Regular Army, National Guard, Organized Reserves, and Enlisted Reserve Corps of the Army of the United States. By Arnold Dwight Tuttle, Major, Medical Corps, U. S. Army. New York: William Wood and Company. 1927. Price \$5.00.

Assuredly the Medical Department, U. S. A., will welcome this admirable Handbook as the up-to-date substitute for the obsolete Handbook for the Medical Corps (Smart) and the progressively obsolescent Handbook for the Sanitary Troops (Mason). The varied and extensive services of the author have rendered him peculiarly fitted for his task for he has served in all grades from private to Colonel in the Medical Department, and has participated in the Spanish American War, the Philippine Insurrection, the China Relief Expedition and in the World War. In the latter he was, for nearly two years, at G. H. Q., A. E. F. In recognition of World War service he was awarded the Distinguished Service Medal (U. S.) the Legion of Honor (France), the Order of Leopold (Belgium). In an appreciative foreword, the Surgeon General records the competency of the author, the efficiency of his service and the satisfying adequacy of this Handbook.

As phrased by General Ireland, "this book is a most illuminating, comprehensive, and up-to-date presentation of the basic knowledge we desire our enlisted men to possess."

Regrettably, there are yet to be found officers in the Medical Reserve Corps to whom this book, with its mass of condensed and yet admirably detailed information, will mean but little. These are they who fancy that a shift from civilian garb to a uniform will instantly change them into full fledged and wholly satisfactory Officers of the Army. But, by contrast, the Reserve Officer who realizes that the pathetically raw recruit must be developed into a dependable medical soldier, and that the instruction and training to accomplish this result rests upon his shoulder; and that this task must be accomplished in the minimum of time and with a maximum of efficiency—to such an Officer this Handbook will prove of inestimable service.

If it be thought that there is far more contained than is essentially requisite for a private, it must be further remembered that, with the enormous expansion of the three components of the Army of the United States,—in the event of a major emergency,—the bright private and the efficient N. C. O. of the Regular Army will, in all probability, function respectively as N. C. O. and Officer of the hugely expanded Organized Reserves; and that upon them will likewise develop a weighty training responsibility. For these this Handbook will be found an inescapable *vade mecum*.

Wisely the Medical Department makes provision for its enlisted personnel that ready access may be had to such needful textbooks as this. Unfortunately (so far as known) no such beneficent provision is operative within either the National Guard or the Organized Reserves. N. W. S.

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ORIGINAL ARTICLES

TUBERCULOSIS CRUSADERS

HOWARD H. BELL, M.D.

Tuberculosis Controller, Division of Health
ST. LOUIS

In this day and age the subject of tuberculosis is an accepted topic of conversation fit for the home; it is discussed freely without suppression except by a few who have the disease in an active form and still regard it somewhat as an ignominy and personal blemish. Much lay information and discussion is sketchy and fragmentary and often does more harm than good for the reason that it frequently deals with one relatively unimportant phase of the subject and depicts it as representing the whole rather than one of the thousand points in controlling this disease.

What is still more pernicious and thoroughly unsound in its purpose and result comes occasionally from a medical man who, feeling the lure of journalism and publicity, dips his pen in vitriol and attacks his own comrades. An example of this form of impropriety appeared in a recent number of *American Mercury* from the pen of Dr. Maurice Fishberg.

The gap between sensational journalism and sound discussion of scientific problems cannot be bridged until the purpose and objective become less divergent and more parallel. No discussion of any subject can be scientific without taking full cognizance of the flaws, defects, and gaps in our understanding and information. These flaws, defects, and gaps are exploited by all the cults from chiropractic to mystic healing, and serve as a recreation ground for the journalist.

Paleopathologists have adequately demonstrated that tuberculosis was a flourishing disease as early as 1600 B. C., and that large numbers of mummies showing tuberculous changes were collected in certain localities, suggesting

that the tuberculous congregated in certain localities because the climate or conditions were favorable for their improvement, or that they were segregated to prevent further infection of the tribes.

Every one knows that the Mosaic laws bear semblance to our sound public health laws of today, and they must have had influence on the reduction of diseases in general where they were in practice.

The first accurate description of tuberculosis was given by Hippocrates (460-377 B. C.). The belief was held by the Greeks at that time that this disease was contagious,—which in itself today is the first lesson we teach in preventing tuberculosis, and our success in this connection is tremendously influenced by how thoroughly we impress upon the laymen that tuberculosis is contagious.

Galen (131-201 A. D.) recommended special climate and milk in the treatment of tuberculosis. Pliny (23-79 A. D.) became enthusiastic over the influence of pine forests in the treatment of tuberculosis, which in modern terms means open air, isolation and segregation. To quote, "as soon as a man finds himself spitting and hacking on arising in the morning, he should immediately take possession of a cow and go up into the mountains and live on the fruits of the cow," is taken from the teaching of Celsus (25 B. C.-50 A. D.).

In other words the ancients soon learned the benefit of fresh air and milk on the course of tuberculosis. As time went on such procedures and practices were more or less modified and refined but, nevertheless, they are the basis of sanatoria regime today in the treatment of tuberculosis. How can one say accurately that the tuberculosis death rate started to decline independent of and long before public health measures were instituted, when such procedures as here referred to were in practice centuries before we commenced to estimate death rates.

It is interesting to note how Dr. Fishberg has hurdled many important points to issue

challenge to antituberculosis workers, and that he considers himself prepared for battle on premises selected by him. To quote figures seems convincing, but no conclusions are fair or worth while when based on a selected and restricted group of figures. To generalize in reference to the adult and to avoid much consideration of tuberculosis in children, among whom antituberculosis work is vastly more important, dodges the most outstanding significance of the entire situation.

The progress in combating tuberculosis made by sound preventive medicine and hygiene is incontestable in face of facts.

Tuberculosis as a disease has accompanied man for many centuries and has adapted or molded its behavior to a vast number of situations, so numerous, in fact, that many volumes are required to describe this disease and its influence on the physical and economic development of man. Not even the most renowned journalist could convey much accurate account of its ravages on a few pages without restricting consideration to a small phase of the subject.

It is accepted that relative immunity to tuberculosis occurs only in the presence of existing infection and that the immunity is not absolute, for superinfection can and does occur in some instances. Adults who have not developed tuberculosis in a recognizable form are collectively much less likely to develop the disease from contact with open cases than are children. That adults may live in contact with open cases without developing the disease is a serious error, although this very idea is capitalized and forms one of the main bolts in Dr. Fishberg's article.

Tuberculosis is conspicuous by its chronicity, its capacity to be in different locations simultaneously, and its variable manifestations, therefore conclusions in regard to an individual or a group of individuals must be based on observations over many years. The more we look into the question of conjugal tuberculosis and the longer we follow the consort widowed by tuberculosis of mate, the higher the percentage we find of those showing active disease. In this connection the observations of Arnold Minnig¹ are exceedingly important and very instructive. Of 1888 cases, 319 or 16.8 per cent. occurred where both consorts had active tuberculosis, or one or both had died from tuberculosis. Of 104 consorts widowed by tuberculosis, followed over a period of 8 years, 50 showed active tuberculosis and 11 were suspicious, amounting to a total of 58 per cent. This lends argument to the time honored idea

that it is the massive frequent dose of infection which is especially to be dreaded.

One of the most classical examples of adult infection has occurred under my own observation. A son contracted pulmonary tuberculosis in the World War and returned to his widowed mother and family as an open case. Since then he himself, his mother, and two grown sisters have died from tuberculosis; the remaining three members of the family are at present in a sanatorium suffering from active disease. Had this son been properly segregated the story would have been vastly different.

More recently a girl of 18 showing far advanced pulmonary tuberculosis gave the history that her mother died 6 years ago from pulmonary tuberculosis at the age of 27. The daughter had been entirely well until several months ago, which serves to illustrate the great trick of this disease to remain quiescent for long periods, and serves further to illustrate the seriousness of permitting the well to live with the infected. Public health agencies are untiringly and unceasingly struggling to prevent such tragedies through proper segregation of the sick.

It has recently been again pointed out by Opie² that 78.7 per cent. of children infected in the first year of life die from tuberculosis, and that the death rate diminishes with delay of the primary infection. The most effective antituberculosis work has been in connection with preventing infection in small children. So appreciated is this fact that Chicago has a law forbidding an open case to live in contact with children under 16 years of age.

In St. Louis the death rate from tuberculosis has been reduced about 50 per cent. since 1910, similar to that of other communities.

It is incontestable that there are reasons for this reduction and I know of none better than those offered by Emerson, recently reviewed by Boynton in her excellent article on "Tuberculosis Mortality Among Children in Minnesota."*

REASONS FOR REDUCTION

Emerson in 1922 divided the possible causes for the decline in tuberculosis death rate into three groups, (1) specific measures, (2) accessory factors, and (3) accidental factors.

SPECIFIC MEASURES

The specific measures, intentionally directed against the transmission of the tubercle bacillus from the diseased to the well, Emerson gives as follows:

1. Early and accurate diagnosis of all forms of tuberculosis.

2. Bacteriological diagnosis of specimens of sputum from those suspected of having pulmonary tuberculosis.

1. J. A. M. A. 89:1174, 1927.

2. J. A. M. A. 89:1293, 1927.

* Am. Rev. Tuberc. 16:379, 1927.

3. Notification of tuberculosis as a communicable disease to the offices of public health.
4. Segregation in a manner to diminish, if not wholly to prevent, the distribution of the tubercle bacillus from those with positive sputum to others during the active or open carrier stages of the disease. This includes sanatorium treatment or its equivalent.
5. Home nursing services for the education of families in which one or more cases of tuberculosis are under the care of a private physician or dispensary.
6. Enforcement of laws and ordinances designed to reduce the habit of spitting in public places.
7. Enforcement of laws and ordinances forbidding the common use of such articles as drinking cups, etc.
8. The compulsory pasteurization of milk and milk products except such as come from herds or cows proved to be free from tuberculosis.
9. Exclusion of the carcasses of animals slaughtered for food purposes in which tuberculosis lesions are found.
10. Examination and exclusion of those found to be suffering from active tuberculosis from industries concerned with the handling and serving of food.
11. Control of flies.

ACCESSORY FACTORS

The accessory factors, which Emerson thinks have been of definite value in preventing tuberculosis, he gives as follows:

1. Reduction in infant mortality and in particular the maintenance of the nutrition of infants by breast feeding unless the mother is tuberculous.
2. Nutritional protection and assistance for children, in particular from 2 to 6 years, and, in general, for all children until they have attained maturity or have left school control.
3. Open air classes for anemic, undernourished, and pretuberculous children.
4. Education in the principles of healthy existence and the natural laws upon which growth, development, and vigorous maturity depend.
5. Housing or tenement house reform.
6. The elimination by enforcement of laws or by trade regulations and agreements of those conditions in industry which have been shown to contribute, by mechanical or chemical injuries of the respiratory tract, to the development of tuberculosis among industrial workers.

ACCIDENTAL FACTORS

Among the accidental factors that may have had some influence upon the death rate from tuberculosis are racial changes in the population; war service, putting men of 21 to 31 under favorable conditions of hygiene and nutrition; expansion of industry; high wages; more continuous employment from 1915 to 1919 with a resulting increase in expenditures for housing, food, and clothing; prohibition; influenza in 1917 to 1919, probably given as a cause of death for many persons who otherwise would have died of tuberculosis.

The difficulty has always been to get early cases sufficiently alarmed or interested in their course and welfare to take the treatment before they become advanced cases, which fact is far reaching in the ultimate outcome of the situation.

"Statistics compiled from the results of treatment of a large number of cases of pulmonary tuberculosis show that 80 to 90 per cent. of

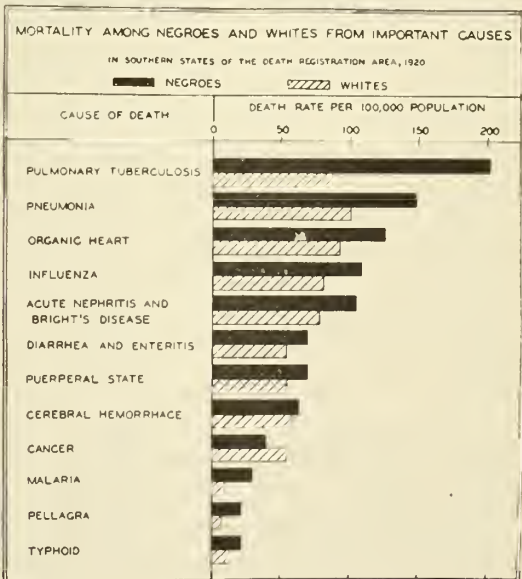
early cases, from 50 to 60 per cent. of moderately advanced cases, and from 20 to 30 per cent. of advanced cases, recover sufficiently to resume their work and become economic cures."

It is incontestable that many people get a small infection and are able to whip the infection before it makes great progress and live normal lives thereafter. Nevertheless, it is impossible to predict the course of this disease, and as the result of ignoring early infections thousands upon thousands pay the final penalty each year. When a lighted match falls upon the floor it is easy to stamp out, but when the house takes fire it is a totally different situation.

The public health man is a salesman selling a commodity in which the people have little interest or concern until they have lost it.

Tuberculosis among the negro is the outstanding phase of the tuberculosis problem today and bears semblance to the problem among the white race of many decades ago. More energetic attack must be directed toward this situation before we can hope to reduce the entire death rate materially. Recently 24 beds have been opened for negro patients at Mount Vernon, Missouri, and it has been impossible to fill these beds on account of not finding early cases among this race, which touches upon a very fundamental angle of the difficulties ahead of us. The death rate among negroes in St. Louis has been about five times that of the white race, which is an appalling fact when one considers that this race prepares the vast majority of epicurean delicacies for the white race. These figures are in accord with figures for other urban districts with similar population.

The following chart is of interest in this connection:



The following quotation from Public Health Bulletin No. 164 has great significance on this entire subject:

The average rate for the 99 large cities was 99.6, as compared for the entire registration area.

As a cause of death in 1923, tuberculosis (all forms) accounted for 7.6 per cent. of deaths from all causes in the entire registration area, being exceeded only by deaths from cardiac diseases with a crude death rate of 175.3 or 14.3 per cent. of all deaths, and influenza and pneumonia (all forms) with a rate of 153.7, or approximately 12.5 per cent. of all deaths. Compared to the mortality from other infectious diseases, including all the common epidemic diseases, tuberculosis claimed nearly twice as many lives as did all these other causes of death.

Because of its ubiquity, its chronicity, its protean manifestations, the age period of its prevalence, the stupendous economic cost, the medical and sociological factors, and the obscurity of the infection, tuberculosis remains the most highly technical and specialized problem in public health practice.

The great reduction in mortality during the last 20 years from 200 per 100,000 in 1904 in the registration area to 94 per 100,000 in 1923 has led a great many of the unthinking in public health work to the belief that tuberculosis is practically conquered. A general review of the situation in the United States will indicate the fallacy of such a belief.

I regard it of special interest to the profession in Missouri to refer briefly to the anti-tuberculosis activities of the Health Department in St. Louis tempered with the invaluable advice, counsel, and supervision of the Health Commissioner, Dr. Max C. Starkloff. Such activities are invested in chest clinic service, field nursing or what might be called home hospital service, and finally hospitalization.

The chest clinics are held in eleven health centers stationed in the thickly populated sections of the city which serve as bases of operation for the district. Chest clinics are held preferably in the afternoon and with a sufficient number of evening and Saturday afternoon clinics to accommodate those employed. The clinics are in charge of competent physicians experienced in chest diagnosis with the invaluable assistance of nurses especially trained in public health problems. Chest clinics are used for the diagnosis of tuberculosis, for observation of ex-sanatorium patients, and as a center from which to visit homes of patients reported to the health department. Routine X-ray examination of the chest is done in the City Hospital, and routine analysis of sputum in the bacteriological section of the department of health.

About 6413 patients visited the chest clinics in 1927 for diagnosis and treatment. There were 25,692 home visits made by the municipal nurses. While these figures are lower than the ideal number of clinic and home visits, still they are most excellent in view of the inadequate personnel so engaged. It is through such activities that the death rate in St. Louis from

tuberculosis has been reduced about 50 per cent. since 1910.

The state of Missouri provides approximately 1300 beds for tuberculous patients open to the general public.

The Missouri State Sanatorium, Mount Vernon, provides beds for early cases of pulmonary tuberculosis. The capacity is 310 beds with a special ward for children. Recently 24 beds have been opened for negroes.

Jasper County Tuberculosis Hospital, Webb City, is for moderately advanced and advanced cases of pulmonary, bone and glandular tuberculosis. The capacity is 100 beds with a separate ward for children. Up to the present, no provision has been made for negro patients although this question is under serious consideration at this time.

Greene County Sanatorium, Springfield, was recently erected for advanced white tuberculous patients and for a few incipient tuberculous negroes.

Kansas City Municipal Sanatorium, Leeds, has a capacity of 90 beds.

St. Joseph Isolation Hospital, St. Joseph, has a few beds for advanced white and negro patients.

Mount Saint Rose Sanatorium, St. Louis, has 150 beds for white patients.

Jewish Sanatorium of St. Louis, Anglum, has 60 beds for white patients.

Children's Hospital, St. Louis, has 20 beds for children with extrapulmonary tuberculosis.

St. Louis City Hospital No. 1 (white) and St. Louis City Hospital No. 2 (colored) house about 100 tuberculous patients collectively.

Robert Koch Hospital, St. Louis, conducted by the municipality of St. Louis, has 420 beds for white and negro tuberculous patients including special wards for children.

Koch Hospital is excellently equipped with modern means of treating tuberculosis and the personnel is specially qualified in this work. It is indeed one of the outstanding sanatoria for the care of tuberculous patients in the United States and is well worth visiting for study of the excellent sanatorium regime here practiced.

Occupational training is a growing department in this sanatorium. Special effort is made to meet this need of postsanatorium employment, one of the serious problems in this work everywhere.

He who declares that no progress has been made by the tuberculosis crusaders in the control of this disease turns his back on multitudes of sound thinking men and women from ancient time to this day and stands alone gazing upon the imperfections of public health activities in combating tuberculosis.

THE MEDICAL ASPECTS OF SOCIAL HYGIENE*

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It seems regrettable that the term "social hygiene" should be limited to the restricted definition applied to it in this country. Genetically the term should embrace all phases of hygiene which relate to human society, to the population en masse, as contrasted with personal hygiene. In certain foreign countries social hygiene does enjoy this broader interpretation. In English speaking countries, however, social hygiene connotes the hygiene of sex and of sex relationships.

Sex is one of the most fundamental of human attributes, the proper development and use of which is necessary for the continued existence of the race. The abuse of the sex instinct on the contrary undermines the basic institutions around which society is organized and serves to propagate a group of diseases which are second in importance to none. To prevent these, the venereal diseases, is the first task of social hygiene. There are other tasks and ideals of social hygiene, such as sex-character education, suppression of commercialized vice, social protective measures, and recreational activities, but the ever present problem of venereal disease prevents these other aims from being appraised at their inherent values.

The science of medicine is based upon the contributions of many of the more fundamental sciences. Public health as a branch of medical science calls to its aid still other professions, and much of the progress in public health has been due to the contributions of other sciences and to other far reaching considerations. Bacteriology has been the basis for much of our knowledge of disease prevention; engineering has made possible the development of sanitation; education has brought the rules of hygiene to the masses; improved economic conditions have been a factor and often the determining factor in lowering infant mortality and the tuberculosis death rate.

Social hygiene as a branch of public health, likewise, calls to its aid still other related sciences and professions which make possible the achievements to which it is dedicated. Education, biology, psychology,

the law, the church—all are contributors to the solution of this problem. On the other hand, this very diversity of interests, coupled with the taboos with which the subject of sex has been surrounded, has impeded progress. Fortunately, however, in the medical aspects of social hygiene certain definite problems are presented which when considered on their merits do not appear insuperable, and certain measures are indicated which are feasible and practicable for the control of the venereal diseases. It seems desirable, therefore, in our discussion to review recent accomplishments in this field, to appraise the present status of the problem and to outline the most urgent needs and trends in the control of these infections.

RECENT PROGRESS AND PRESENT STATUS OF THE PROBLEM

It is only within the past decade that public health authorities have undertaken a concerted effort for the control of the venereal diseases. Prior to that time public sentiment did not permit a consideration of these on the same basis as other infectious diseases, but the importance of syphilis and gonorrhea in depleting the man power of the country during the late war served to arouse the public to the necessity for action. As a result a nationwide movement for venereal disease control was instituted. In this movement the Public Health Service took a leading part and aided with large appropriations the development of venereal disease control measures. After a few years, however, federal appropriations were reduced, aid to the states for this work was terminated and the states were left on their own responsibility for the success or failure of their venereal disease control efforts. This is in general accord with the provisions of our Constitution and the policies of the Public Health Service. It should be stated, however, that this decentralization was unduly accelerated by budgetary and appropriating agencies of the government with the result that many of the states were unable to assume the burden which was suddenly thrust upon them. Other states more fortunate in the responsiveness of public sentiment have been able to extend and to increase the efficiency of their venereal disease control measures.

Never before in a similar period of time has the public been enlightened more rapidly concerning any phase of public health, nor has more progress been made in directing the forces of prevention against any group of diseases. On the other hand, it

*Read before the St. Louis Medical Society, February 7, 1928.

must be acknowledged that no problem which heretofore has engaged the forces of prevention has offered greater obstacles to success. The so-called "American plan" for the control of the venereal diseases has proven its soundness in all essential features. The difficulty is that it has not been put into general practice. Since it is the medical aspects of this problem to which this paper is limited, a brief summary of the essential medical considerations will be given.

Notification. No communicable disease can be controlled without knowledge of when, where, and under what conditions cases are occurring. As regards the venereal diseases, the several state health departments require notification by number except where the patient fails to continue treatment and becomes a menace to the public; then a report giving the name of the case is required. Although it is recognized that reports of these as well as of other communicable diseases are incomplete, 3,105,952 cases have been reported during the past eight years. The number of cases of syphilis notified each year approximates 200,000, and of gonorrhea 160,000. Syphilis stands first or second in the total number of cases notified, being equalled only by measles.

Prophylaxis by treatment. Untreated cases of venereal disease are a menace not only to the individual but to the public. For that reason treatment of the infected individual is required and this requirement carries with it the natural corollary that if the state requires treatment to be taken such treatment must be furnished without cost to all who are unable or unwilling to pay for such treatment. During the past eight years more than 800 cooperative venereal disease clinics have been established of which 450 now are in operation. In these clinics 1,023,326 patients have received 16,330,994 treatments during the past eight years. In addition to the cooperative clinics there are more than 200 dispensaries where venereal disease treatments are given free or at a nominal cost. Treatment facilities for the venereal diseases seem reasonably adequate in amount in the larger centers of population. In the smaller cities, however, and in the rural districts the organized venereal disease clinic does not seem practicable and except in a few states, health authorities have not developed in these areas adequate treatment facilities for indigent venereal patients.

Although clinic service in the cities is adequate in amount, the quality of the service is

far from necessary standards. Of the 449 cooperative venereal disease clinics in the country 163 report that they employ no follow-up of delinquent cases, of sources of infection or of familial or other contacts, and in many other clinics these measures are carried out in a half-hearted manner. Adequate follow-up of cases to see that treatment is continued until maximum results have been secured is as essential to a clinic as is a microscope and a supply of arsphenamine.

It is obvious that prophylaxis of the venereal diseases by treatment forms a most effective weapon for their control. Many of our venereal disease clinics are meeting the highest standards in the quality of medical service and in insuring a continuation of treatment to an arrest or cure of these diseases. A larger number, however, are "treatment mills" in which the average number of treatments given is inadequate to effect a cure. In the case of syphilis, this treatment may result in temporary sterilization of the patient but may also increase somewhat the hazard to the patient of late cardiovascular and nervous complications. Not only should a clinic give a high quality of medical service, should use every effort to induce its patients to continue treatment and should bring under treatment the familial and other contacts, but in addition the clinic furnishes the best possible medium for educating the very class of persons for whom education in the venereal diseases is most essential.

The physician in the clinic or in private practice very definitely fails to discharge his full responsibility if in addition to giving proper treatment he does not instruct his patients carefully as to the prevention of the spread of the infection to others and in preventing reinfections, by all means available, including prophylactic and early treatment measures. In military forces these measures have reduced markedly the incidence of the venereal disease but as yet no plan has been put into satisfactory operation among the general population. The inherent difficulties are obvious and have deterred the majority of health officials from the general advocacy of personal prophylaxis. The situation as regards the patient who is already infected, however, is very different. Educational efforts here have failed. It is the job of the physician to salvage the wreck, to prevent dissemination of the infection and to prevent a reinfection.

Laboratory service. Practically every state in the Union and many of the larger cities

provide free laboratory service as an aid in the diagnosis of the venereal diseases. During the past eight years about two and a half million Wassermann tests and about one million six hundred thousand examinations for the gonococcus have been made in the state laboratories. Last year nearly 900,000 Wassermann tests¹ were made, representing an increase of approximately 25 per cent. over the previous year. This means that an increasing number of physicians are using the Wassermann test in an increasing number of cases which present doubtful diagnosis. Although it is desirable that the Wassermann test be given its due place in the diagnosis and treatment of syphilis, there is a deplorable tendency on the part of many physicians to place too much reliance on the results of this examination. This test is a valuable aid in diagnosis and treatment but should not replace a careful physical examination to elicit clinical evidence of syphilis. In particular, the practice of considering a patient cured solely on the basis of a negative Wassermann reaction needs to be strongly combated.

Distribution of arsphenamines. States have found this a profitable activity and have distributed these drugs in increasing amount so that last year nearly 800,000 doses were dispensed by state health departments.

The above are some of the activities which are susceptible of statistical appraisal. Of greater importance has been the awakening of interest on the part of the medical profession and of the public in the venereal diseases; the improvement in methods of instructing medical students in these diseases and other intangible measures of progress.

So much for the accomplishments. What are the obstacles still to be overcome? Wherein has this program fallen short of reasonable expectations?

PRESENT TRENDS AND NEEDS

Prevalence of the venereal diseases. In the first place, we have no definite statistical evidence as to the prevalence of the venereal diseases in the general population or of the trend of new infections. Although literally millions of dollars have been spent in this campaign the results can be measured only in terms of activities, not in terms of change in incidence. From a number of foreign countries more or less conclusive evidence has been forthcoming during the past year or two showing a decline in the rate for the

venereal diseases, particularly for syphilis. Until such evidence can be brought forward in the United States it is difficult to measure the effectiveness or ineffectiveness of various community programs for the control of these infections. Therefore methods of securing information as to the prevalence and trend of new infections of syphilis and of gonorrhea should be the first concern of every community.

I will not enter into a discussion of the several methods by which this information can be secured, but will discuss in some detail a method which is being followed by the Public Health Service with the cooperation of the American Social Hygiene Association in a large number of communities. By means of a questionnaire every physician and other person licensed to treat the sick, every clinic, hospital and other institution in which venereal diseases may be treated is asked to submit a statement on a given date as to the number of cases of syphilis and of gonorrhea under active observation or treatment on that date. The information is classified by disease, by sex, and by stage of infection. Every effort is made to explain to the physician that this is a statistical study and is not to be used as a check on the efficiency of reporting. To those physicians who do not make a return, personal visits are made with the result that in fourteen communities from which the returns recently have been tabulated only one physician failed to give the information sought. This method of ascertaining the prevalence of syphilis and of gonorrhea by a one day census of all cases under treatment is far from perfect but seems to be the best method thus far devised.

The studies² thus far have shown a great variation as between the urban and rural rates of the venereal diseases. In the cities of more than 25,000 population it has been found that rather consistently between one and two per cent. of the population is constantly under treatment for gonorrhea or syphilis, the average being approximately one and a half per cent. The number of cases of syphilis under treatment exceeds somewhat the number of cases of gonorrhea. Because of the longer period of treatment for syphilis, however, this would be expected. A larger number of cases of gonorrhea develop in a given period of time, but the turnover is more rapid. One half of the cases of gonorrhea under treatment develop within six months next preceding the date of the survey. Of every hundred

1. The term "Wassermann" is used in a generic sense, and includes Kahn tests which have now replaced the Wassermann in several state laboratories.

2. Venereal Disease Information, 9:No. 2, 1928.

cases of this disease 71 are males and 29 females. In the case of syphilis, only 35 per cent. of the cases under treatment have developed within one year preceding the census. For every hundred cases of this disease under treatment there are 61 males and 39 females.

Of considerable interest has been the number of physicians who are shown to be treating one or more cases of a venereal disease. For the fourteen cities 54 per cent. of all physicians, including all specialists, are treating one or more cases of a venereal disease. This means that the treatment of syphilis and gonorrhea is in the hands of the great bulk of the medical profession and that our efforts to improve methods of treatment must be directed toward the profession generally. It does not appear that the venereal disease clinics are making serious inroads on the practice of the physicians in that even in the larger cities more than two-thirds of the cases are under treatment by private physicians, the remainder being treated in institutions, free wards of hospitals, clinics, dispensaries, hospitals for the insane, et cetera. In spite of the shortcomings of this method it seems to be the best yet devised and should be particularly useful in furnishing a base line from which the change in venereal disease prevalence in the different cities can be measured from year to year.

In addition to this one day census of cases it would seem desirable for a city interested in this problem to tabulate the results of routine Wassermann tests in its general hospitals and particularly in its maternity hospitals; to compare the number of cases reported by physicians from year to year with the number of physicians who are making reports; to determine the per cent. of the venereal diseases among selected groups of the population, such as those admitted to jails; and to compare from year to year the number of indigent cases of venereal diseases being treated in the dispensaries of the city with the total number of patients treated for non-venereal conditions. By these several methods a very definite indication will be had as to the results of control efforts.

Epidemiological considerations. Sources of infection must be discovered and brought under treatment. In these as in other infectious diseases it should be possible to determine the source of infection in a large proportion of fresh infections. In the few communities where concerted efforts have been made by the physicians to secure this

information very gratifying results are reported. The average male patient will give two general sources of infection: (1) the commercial prostitute towards whom he feels some resentment because of his infection, and (2) the marital or sexual partner in whose cure he is interested. For the first class the patient will usually reveal the name and the health officials or the police can take necessary action; for the second, the patient himself usually will persuade his source of infection to take treatment. In one dispensary an admission card is given to every male case with the information that the woman from whom he acquired his infection will be admitted to the woman's department without any questions upon the presentation of that card. The high proportion of cards returned indicates the success of this plan.

Another fact which is too infrequently given consideration is that although a large number of people in this or other cities are infected with a venereal disease, there are comparatively few who at any given time are active spreaders of the disease. Intelligent cooperation between the physician and the health authorities will result in bringing these promiscuous spreaders of infection under treatment. These efforts to go one step towards the source of the infection will pay for themselves many times. It is the principle which is followed in every infectious disease but is all too generally neglected in the case of the venereal infections.

If other factors which make for prevalence have not changed during the past several years the introduction of salvarsan alone would be expected from a purely epidemiological point of view to have reduced markedly the prevalence of syphilis. Let us assume, however, that syphilis and gonorrhea are not increasing or decreasing—that the rate is the same from year to year. This means that every hundred cases which develop in this city give rise to exactly one hundred additional cases. If this were not true these diseases very soon would overwhelm the race or would disappear.

In discussing means of prevention it is not necessary that a given measure prevent all cases. If by more rapid sterilization of the patient, by reducing the number of sex exposures, by the use of chemical or other form of prophylaxis, a small per cent. of cases can be prevented this will mean that every hundred cases will give rise not to one hundred but to let us say ninety cases. It is obvious that a reduction in the prevalence of these diseases can be brought about by any one of these methods. In the case of syphilis particularly, any country can go far towards an eradication

of this disease in one generation by insisting upon thorough treatment or at least upon the sterilization of cases. Prophylaxis by treatment will reduce syphilis to the vanishing point. In the case of gonorrhea, infectivity persists as long as the disease persists and determination of cure is so unsatisfactory that I hold no such optimistic view of this disease until science has given us better weapons with which to attack.

Scientific research. There are problems in the field of research which press for solution. Although improvements in the methods of treating syphilis have been marked during the present century, comparatively little progress has been made in the treatment of gonorrhea, and this lack of an adequate method for the prompt sterilization of cases is reflected in the continued prevalence of this disease. Every encouragement should be given to studies to devise more effective treatment for gonorrhea.

Although we have at hand a means for the comparatively rapid sterilization of syphilis, complete arrest of this disease is a matter of years, and even for a person of moderate means the cost of treatment of syphilis may be beyond his ability to pay. Unfortunately, too, inadequate treatment, from the standpoint of the individual, may be much worse than no treatment at all.

In comparison with their importance less scientific research is being conducted in these diseases than in any other comparable public health problem. Endowments for their study are difficult or impossible to secure. The tradition has grown up in this country that private wealth is given for the study of a disease from which the donor or a member of his family has suffered and it is this tradition which prevents funds from being forthcoming for studies in the venereal diseases. The Public Health Service believes that its primary responsibility lies in this field. It is our aim to conduct as many studies as our limited resources will permit and to aid by all means possible the development of these studies in various scientific institutions in the country. Problems of research are becoming more complicated and require for their successful conclusion a greater coordination of effort.

The most important needs in the medical phase of social hygiene may be summarized:

1. Adequate instruction should be given to medical students and postgraduate instruction to physicians in modern methods of diagnosis and treatment.

2. Adequate clinic facilities must be provided, including facilities for education of the patient and for follow-up to insure completion of treatment.

3. Concerted effort should be made to determine the prevalence of the venereal diseases by all available means in order to measure the results of the activities which are being carried out. The public has a right to demand this information.

4. Sources of infection should be followed up and brought under treatment.

5. Scientific research in the venereal diseases needs to be stimulated, developed and co-ordinated in order to devise more effective methods of control and treatment.

6. Finally, any adequate measures for the control of the venereal diseases should embrace a coordination of effort on the part of public health authorities,—federal, state and local, with the medical profession and with the organized support of an interested public. Social hygiene societies such as exist in Missouri should be encouraged and strengthened to bring to bear on this problem an organized public opinion. The interest of the medical profession in St. Louis as manifested by this meeting gives a concrete illustration of a sentiment which should be more generally manifested.

ACUTE ANTERIOR POLIOMYELITIS*1

A WORKING HYPOTHESIS AS TO ITS CAUSE AND PREVENTION

MARSH PITZMAN, M.D.

ST. LOUIS

While conceding that I have not studied in minutia all the tremendous literature of the major civilized languages on this disease during the past half century, still a conscientious search has failed to reveal to me even a hazy cross reference to my present conception as to the etiology and therefore to the prophylaxis of acute anterior poliomyelitis. This world-wide intensive study of poliomyelitis has resulted in reasonably separating out this symptom-complex from other more or less similar nervous disorders and, at least so far as the spinal cord is concerned, has established a universally acceptable pathology. In recognition of this development, the older terms of spinal paralysis of infants and the Heine-Medin disease have gradually given way to the universally acceptable term acute anterior poliomyelitis. But true borderland cases still exist—specifically acute poliomyelitis with more encephalitic symptoms than usual and on the reverse enceph-

* Presented at the meeting of the St. Louis Medical Society, March 6, 1928.

1. From the Department of Surgery and other Departments of Washington University Medical School.

alitis lethargica cases with more marked anterior horn spinal cord degenerations than are ordinarily found. Admitting fully the obvious similarities between these two diseases, and further that in a small percentage the differential diagnosis is at present impossible, still the differences between these diseases, considered as a whole, are so great as to make separate etiologies practically certain. On the other hand, these etiologies are presumably sufficiently related so that the solving of the one would materially simplify the search for the other. At any rate I started out to develop my own theory as to the etiology of epidemic encephalitis lethargica (I'm strongly prejudiced against acquiring the condition either personally or in my immediate family or among my real friends) and in considering the whole problem I suddenly found myself with an absolutely original conception as to the cause of poliomyelitis.

As to personal qualifications, my major asset strikes me as the opportunity to plunge into this problem twenty years after medical graduation without any basis for prejudice. In other words, my fund of fixed ideas, of both the true and false varieties, in pediatrics, orthopedics, neurology, pathology, research, etc., is materially less than had I specialized in any of these lines. This is meant seriously and is to be applied particularly to revolutionary discoveries, irrespective of the line of human endeavor. Finally my varied research efforts and experiences in medicine and surgery allowed me to read the Sinclair Lewis-De Kruif "Arrowsmith" with complete sympathy and to give it full endorsement. In other words, neither conventional repetitions nor high sounding title nor supracomplicated experiment impress me unduly at the present time, if ever!

With these preliminaries out of the way, let us summarize the universally acceptable facts. In the first place poliomyelitis is peculiarly a disease of early childhood, eighty per cent. or more of the cases occurring within the first ten years of life. In the second place, it is essentially a disease of the hottest periods of the year, the so-called epidemics usually reaching their crest during the hottest spells of very commonly peculiarly dry and hot seasons.² But larger epidemics are always associated with sporadic cases in the spring and fall, and occasionally sporadic cases and even minor epidemics have appeared in the midst of

winter. And finally in spite of more than a generation's intense effort to find a bacteriological cause and make the epidemiology check with ordinary contagious-infectious diseases, the net practical result to date has been worse chaos and more confusion. To this last statement the discoverers of the latest model bacteriological causes will presumably dissent violently, and they will be supported by all who are impressed by high sounding names and titles and do not take the trouble to make a personal critical study of the original conflicting reports. But in spite of conventional polite cross references among this group of specialists in determining the bacteriology of poliomyelitis, the multiplicity of the bacteria accused and the inconstancy of experimental results will, in my judgment, sustain the chaos-confusion conclusion of anyone with a reasonably skeptical make-up.

And now for the steps in my own analysis. My respected old time teacher of pathology, Dr. Ernst Tiedeman, gave us the accepted opinion of the time in regard to poliomyelitis, which was, that the nerve destruction was due to the selective action of some poison carried to the spinal cord cells by the general circulation, the type and origin of the poison being entirely unknown. He further impressed on us a healthy skepticism toward so-called cancer germs, for example, actually demonstrating how easily contaminations take place in experiment, which accidents are naturally misinterpreted by enthusiasts. Then in my City Hospital and later experiences I personally checked the well known pathological fact that pus cells (polymorphonuclear leucocytes) are more pathognomonic of acute bacterial infections than is the actual demonstration of the bacteria. (For example, in recovering epidemic meningitis the pus cells persist in quantity long after the diplococci can be demonstrated in smear; the same is true in acute gonorrheal urethritis, etc.; and this applies even if no special antiseptic or treatment is used.) On this basis I am perfectly willing to believe fully in the unknown organism of measles and cheerfully accept the recently demonstrated streptococcus of scarlet fever as an established fact. But the diffuse lymphocytic infiltration of the anterior horn cell areas of acute poliomyelitis strikes me as the theoretically typical reaction of the human body to a poison carried to and selectively attacking these cells. For a recent illustrated summary of the acute pathology see Collier in Oxford Medicine, 1921, Vol. VI, pp. 375-

2. Report Infantile Paralysis in Mass., 1910, p. 6. Nebraska Epidemic, J. A. M. A. 55:1160-1162, 1910. Also in New York City, 1916, Rockefeller Monograph No. 4, etc.

378. This pathological picture certainly does not look like any other known microscopic abscess found in kidney, liver, lungs, muscle or even brain as a reaction to the acute pus-forming bacteria, and is also totally different from the circumscribed miliary nodules of such chronic infections as tuberculosis, syphilis, reaction around microscopic foreign body, actinomycosis, etc. It is surely more like the pathology of such diseases as rabies, or wood-alcohol poisoning. Now this summary and logic was generally acceptable to most old time pathologists and only since alleged specific bacteria and ultramicroscopic viruses have been found in the spinal cord has serious dissent arisen. So when I insist on again trying the old road—well, it has had very respectable support and perchance a better diagnosis at one of the turns will help us out of our, to date, endless maze.

Which brings us to the crucial turning point where all former observers have either taken the wrong path or not followed their new lead sufficiently hard and far. Where in the child's body is this hypothetical poison formed? Or if it is a preformed poison, how is it introduced into the child's blood stream? The very striking feature of this disease is how little we have to guide us in localization, either in symptomatology or pathology outside of the results in the central nervous system, i. e., some diffuse hyperplasia of the lymphatic glands and organs, cloudy swelling and perchance fatty degeneration in the parenchymatous organs, more particularly the liver. The seasonal incidence, being just the reverse of our ordinary contagious-infectious diseases, speaks strongly for the insect carrier or host. Or, just as good theoretically, it might be a plant in some obscure way causing this malady. If some sort of insect it must come out of hibernation sufficiently often to cause sporadic cases in the midst of winter, and if a plant its poison must persist through the cold months and be in position to repeat its totally obscure circle. The disease was primarily distinctly a country and small town disease, which is obviously just the reverse of our common contagious-infectious disorders. Latterly it has invaded large cities more and more, including the fearful 1916 epidemic in New York City, and on this basis it is commonly argued that the disease is changing its character. It strikes me as more reasonable to argue that city folk are constantly building stronger connections with the country and thus are importing the disease from countryside to city.

Now my first effort was to follow the well blazed trail of attempting to connect the disease with some biting fly or insect. But on closer examination of the established facts the following items soon discouraged this attempt to coax poliomyelitis to coincide with our known insect borne diseases: the short duration of the fever in average cases; the lack of any specific findings in the blood or erythrocytic-leucocyte organs; the very large incidence during the first two years of life when naturally children would be best protected from flies or bugs; this argument is reinforced by the epidemiological evidence that the case incidence is just as high among the prosperous as among the poorest families; in other words, neither perfect screening with total absence of insect life, nor the reverse, seems to make the slightest difference in incidence. Finally all of our fly-bug diseases have decreased markedly with the advancement of civilization, while poliomyelitis is certainly at least as common as ever.

On this basis I gradually dropped this direct insect infection theory, but clung to the notion that indirectly some sort of animal carrier or host was involved. What indirect relationship could exist? Obviously the food or water taken by the infant or young child might be poisoned, and if the bacteria could not reproduce in the human body this theory would satisfactorily account for the characteristically short duration of the fever. We are making progress! The following facts struck me as making short shrift of the water hypothesis: the disease occurs with all known types of water supply, i. e., spring, well, cistern, and finally the modern elaborate municipal waterworks, which are, barring occasional accident, phenomenally safe supplies. Which by exclusion leaves only the food supply, in this instance the only food common to all patients attacked being milk. Nowadays with the tendency to feed infants all sorts and conditions of food, other things might be brought under suspicion, but in former days infants from two to six months at least were kept on an exclusive milk-water diet. And inasmuch as these patients were susceptible to the disease as soon as taken off the mother's breast milk, our argument now resolves itself into finding the source of poison in the cow's milk.

My first conception was that some fly or other insect carried the bacteria to the milk, where some unknown organism produced a poison in the milk until its activity was checked by the physiologic development of lactic acid bacilli. Based on the typical

clinical history of average cases, which certainly looks like one or two doses of a specific poison, I ruled out as most highly improbable the further growth of the organism in the child's intestinal tract. And while this conception still strikes me as a possible explanation of our clinical facts, I shortly developed ultraskepticism for the following reasons: the tremendous amount of work done on suspected milk without finding any typical constant organism; the same applies to intestinal contents of children dying during the acute stage of the disease; the fact that poliomyelitis occurred in the former days, when milk was protected by lactic acid fermentation as soon as it got old or its temperature was allowed to rise, relatively just about as frequently as in this modern Pasteurization age, when this protection is often somewhat delayed or perchance even entirely absent; if lactic acid bacilli were greatly weakened by Pasteurization the milk should swarm with our theoretic unknown organism of poliomyelitis and certain samples would be so supertoxic as to surely attract attention; and finally the very freshest cow's milk, as typified by prosperous folk living in the suburbs or country with their own individual cows, is an everyday story preceding the attack, both sporadically and in so-called epidemics.

All of which brought me to an abrupt and complete stop. But being an incurable inventor both by instinct and training, my thoughts kept worrying over the problem at every spare moment day and night and I suddenly found myself attacking the problem from the fresh point of view. What known poison group could produce such results? Obviously it is not the selective affinity of tetanus or rabies, but in many ways it does approach the known selective affinity of the botulinus toxin. However, botulinus toxin in adults at least certainly attacks the brain primarily and the spinal cord only secondarily if at all, which reverses the known selective affinity of the poliomyelitis toxin. Further we are limiting our present search to milk, which definitely excludes the strict anaërobe *Bacillus botulinus*. The various typhoid and dysentery and in fact all common garden varieties of toxins seem excludable on every count. Well then, how about plant toxins? The opium and strychnin groups sound completely unreasonable, but how about the belladonna group? That's not so easily excluded, atropin being a well known respiratory and spinal cord and brain stimulant, hence presumably in overdose a poison. Besides, doesn't the

common poisonous jimson weed belong to the belladonna group? Let's look it up in my old Potter's *Materia Medica, Pharmacology and Therapeutics*, vintage of 1902, pp. 213-214. "Belladonna * * * belongs to the large order of Solanaceae * * * which contains *Datura Stramonii* (James-town or Jimson weed)—chief alkaloids of group atropin and smaller amounts of hyoscin * * * a psychic and motor stimulant, including respiration * * * in overdose a marked depressor including paralysis beginning usually in the lower extremities * * * Herbivora peculiarly and inexplicably immune to tremendous dosage * * * excreted in urine in sufficient concentration to dilate pupils of eyes of carnivora, etc." Oho! We're finally off on a totally unexplored trail!

Then I remembered something about cows eating poisonous plants and while themselves remaining moderately well causing illness, eventually death, in those who drank their milk. A short search revealed the particular poison plants to be the white snake root (*Eupatorium urticaefolium*) in more northern U. S. A., the rayless goldenrod (*aplopappus heterophyllous*) in the Texas desert region³. This case seems to be scientifically proven as regards poison milk, among others by competent authorities of the United States Bureau of Animal Industry, but the butter and meat stories, on account of the equation of dosage, would have to be tremendously authenticated before I could bring myself to believe them. As reported the cases do not suggest poliomyelitis in any regard and no even hazy relationship is suggested either by the author or in any of the comments noted on his report. Furthermore, the occurrence of "trembles," even in its mildest form, in the cows supplying milk to victims of poliomyelitis would surely have attracted widespread attention. The poisonings by drinking milk contaminated by these plants certainly deserve further investigation, but to me they are mainly interesting in relationship to poliomyelitis on account of furnishing a genuine analogy for encouragement.

Now in discussing my newly hatched hypothesis with all such intimate doctor friends as would listen, the first skepticism encountered was that cows would or could eat atropin-containing plants in sufficient quantity to poison their milk, without being made critically ill or dying themselves. I confess that the story of most herbivorous animals being practically immune to atropin

3. J. A. M. A. 87:555-556, 1313, 1835, 1926.

poisoning while most carnivora were markedly susceptible needed more reinforcement and details than mere repetition in textbooks gives. So it was a comfort to find Bastedo, obviously with no suspicion of poliomyelitis etiology in mind, answering this justified skepticism in the following paragraph⁴: "Tolerance of *Belladonna* Group. To a certain degree tolerance may be set up in man by gradual increase in the dosage, so that as much as a half grain (0.03 gm.) may be borne without ill effect. Children can take proportionately large doses; in fact a child of eight may be given the same dose as an adult. Among subhuman mammals it is found that the carnivora are especially susceptible to the drug, while herbivora are markedly resistant. A cat, for instance, is readily poisoned, while a horse or rabbit may feed on belladonna leaves with comparative immunity. Successive litters of healthy rabbits have been reared entirely on belladonna and stramonium leaves and Calmus found that it took about 15 grains (actually 0.972 gm.) of atropin to kill a small rabbit." Other authorities state that birds are scarcely susceptible to atropin poisoning at all, while later on Bastedo gives the following liberal margin between the physiologic and fatal dosage for the adult: "One half grain has proved fatal while 3 grains have been recovered from." Without multiplying such quotations my hypothesis is made distinctly more possible by these facts. Further, the large elastic dosage between illness and death helps our working theory to check with the clinical experiences in poliomyelitis.

And now we have to take a minor hurdle because my search did not reveal any reference to atropin in cows' or other animals' milk. Evidently the materia medica pharmacology experts were not at all interested. These books all contain references to atropin in the urine of various herbivora, as demonstrated by the mydriatic action of said urine on the eyes of carnivora. But, unless I'm way off on my physiology, my a priori assumption would be that every truly water-soluble substance coming from the general circulation into the urine would also be found in the sweat glands and the lactating mammary glands. The answer to the universal medical knowledge that a single physiologic dose of atropin markedly blocks all secretion is that it is practically impossible to maintain this primary activity over any prolonged period of time. In or-

der to maintain this effect the dosage has to be continually and markedly increased and even then the probabilities are that the temporary inhibition would be followed by normal or even increased secretion. And now like the famous pump handle story, I can close this paragraph with a quotation from Holt.⁵ "Given in full doses, belladonna regularly appears in the mother's milk." He makes no statement about cows' milk, but such a hurdle surely seems harmless.

The next skepticism encountered was, "Well, admitting for sake of progress your propositions about herbivora, what evidence can you offer that an overdose of atropin can cause actual destruction of the anterior horn motor cells even in carnivora? Yes, you can omit for the time being the question of this applying to human infants." Having to now not so much as lifted a finger in experimental effort I can only answer by quoting authority, which work however was fortunately done without any suspicion as to the use to which its results were to be put. Let us skipingly quote from Potter: "Atropin in small doses a cardiac, respiratory and spinal stimulant; in large doses a paralyzer of the cardiac and respiratory centers, the spinal cord, the motor nerves and the involuntary muscles. * * * In overdose complete motor paralysis follows, delirium, stupor and finally death, which usually occurs by asphyxia. * * * The brain is congested by overdose, headache, vertigo, busy delirium and hallucinations being produced, the latter from a selective action on the cells of the gray matter. The spinal cord is overstimulated, resulting in a complete motor paralysis, central and peripheral, power being lost first in the lower extremities. Sensation is also impaired somewhat but muscular irritability is not. Respiration is increased and the body temperature elevated. Metamorphosis is greatly promoted by the increased activity of the circulation. A diffuse eruption of scarlet color, closely resembling the eruption of scarlet fever, is often produced in the skin and fauces by atropin, with dysphagia and sore throat, and is sometimes followed by desquamation of the epidermis. * * * Atropin is rapidly diffused and quickly eliminated, particularly by the kidneys." Well, certainly if the old boy were trying to give a word picture of poliomyelitis instead of atropin poisoning he could not have done much better with-

4. *Materia Medica and Therapeutics*, Ed. 2, p. 405, 1918.

5. *Diseases of Infancy*, 1902, p. 136. Statement repeated in all later editions.

in the space limits used. Of course he should have been more specific about just what motor cells were destroyed and in what proportions, including microscopic slides of the motor nerve centers in both acute and long standing cases. He might well have emphasized the fever more, including its average transitory character. And in conformity with his judgment modern posted physicians simply call the eruption a rash and no longer report poliomyelitis as a sequel to scarlet fever or measles. All other materia-medica-pharmacology-therapeutic authorities consulted in latest summaries practically repeat this Potter story, without material addition or subtraction. But it is obvious that major omissions in regard to the permanency of these paralyzes exist and fresh experimental work must be undertaken to determine accurately the whole effect of atropin-hyoscin on the motor nerve cells of both the brain and spinal cord, in both young and old carnivora, before a firm scientific foundation for my hypothesis can be established. And obviously preferably by some skeptic or at least neutral observer.

Having summarized some evidence that atropin poisoning is at least rather similar to poliomyelitis let us now reverse our proposition and see whether clinical descriptions of poliomyelitis symptoms and death would seem to check with atropin poisoning. Of course one can prove (?) all sorts of weird things by selective quotations, but the following excerpt from Peabody's report strikes me as being only marked out from numerous other similar statements by its exceptional clarity and conciseness:⁶ "The essential feature of death in poliomyelitis is that it is a respiratory and in a way a mechanical death. * * * The typical clinical picture, moreover, as we have seen it in the severe, fatal cases, is not that of a patient dulled by a general toxemia, but of one with a clear, alert sensorium fighting for every breath until he is literally suffocated. This does not mean, of course, that there are not other cases of poliomyelitis, which pass from somnolence to stupor and die without regaining consciousness." The subsequent case reports list cases of transitory unilateral or bilateral diaphragmatic paralysis with eventual recovery, and other cases in which practically all of the intercostal muscles were temporarily out of commission but also resulted in eventual recovery. A somnolent death in the clinical

case reports was very exceptional except in very young children overwhelmed by the poisoning. While to date I have not found detailed accurate clinical descriptions of human deaths caused by atropin poisoning still this clinical description of poliomyelitis deaths obviously fulfills all our theoretic desiderata with one exception. Which important exception is that so far as my search goes nobody has commented on the dilated fixed pupil so characteristic of heavy atropin dosage. Possible alibis are that in severe illness in a darkened sick-room, full pupillary dilatation would not attract attention in the way contracture of the pupil certainly would. Another is that by the time the onset of paralysis makes the diagnosis positive the great bulk of the toxic atropin has already been eliminated from the system. And finally—well, maybe its presence has just escaped notice and comment—or we're on a wrong trail!

"But a lot of other drugs besides atropin," insist my skeptical friends, "will also produce similar motor paralysis in overdose without much sensory involvement." Yes, that's true, and further they all tend to attack the caudal extremities first, i. e., the motor neurons with the longest axis cylinder processes. But leaving aside all question of rarity, none other than atropin is noted in my pharmacologies as producing fever; fact is, most of them tend distinctly in overdose to lower the body temperature from the onset. This statement is not true of the strychnin groups, which, however, can be ruled out by the nonoccurrence of severe tonic and tetanic convulsions in our poliomyelitis cases. Further, many other possible motor poisoning drugs can be ruled out by the absence of marked gastric upsets and severe hydragogue purging in our clinical cases. All of which keeps my suspicion centered on the atropin-hyoscin containing plants, specifically the widespread jimson weed. But the alkaloid conium, found in the common spotted hemlock and other marsh loving poisonous plants deserve real study.

"Oh, yes—plenty of jimson weed!" protest my doctor friends with a country background, "but unfortunately for your theory, cows just won't eat them." Which, if literally true, would make us widen our search to other atropin containing plants, as for example *Atropa belladonna*, *Hyoscyamus niger*, *Duboisia myoporoides* in Australia, *Mandragora autumnalis* along the Mediterranean, *Scopolia atropoides*, and in other species of these plants (fact is the whole

6. Rockefeller Institute Monograph No. 4, Peabody, Draper and Dochez, p. 68.

order of the Solanaceae). Now while in individual instances any one of these atropin containing plants might be the source of our theoretically poisoned milk (and atypical cases might be produced by cows eating a host of other plants) my primary suspicion is still directed most strongly against the jimson weed for the following reasons: A very widespread, virile plant, imported originally to America from Europe, an annual with a deep taproot which together with its tendency to select moist rich spots tend to keep its leaves green when all other vegetation is sunscorched. Now all our epidemiological evidence endorses the countryman's conception that cows won't eat jimson weed, if the proviso is added, unless said cows are practically forced to it. In other words it is only when every other trace of green food has disappeared that the cow accepts the jimson weed as the lesser of evils. The botanical works consulted agree that jimson weed is distinctly distasteful to average cows, but now and then they will browse the young shoots and will eat the dried leaves when mixed with their hay, occasionally eating so much as to produce symptoms in the cow herself. So, barring the idiosyncrasy of some fool cow actually preferring jimson weed, as in the classic Western loco weed example, this portion of the problem resolves itself into the question of whether by withholding all other greens, cows can be starved into eating the jimson weed leaves. Incidentally, if one cow in a small herd started to eat the jimson weed, the rest of the herd would tend to follow suit. That seems like a simple problem for experiment, including the question of jimson leaves in the winter's hay, while the resulting milk could easily be tested on cats and dogs. (Experimentally this plausible theory received a jolt, when dogs and cats refused absolutely to drink atropin-hyoscin contaminated milk.)

Now let us check our working hypothesis roughly against the known epidemiology of poliomyelitis. A great number of conscientious students and collectors of the epidemiology have come to the very unsatisfactory but brutally honest conclusion that their data checks with no other known disease. And in spite of tremendous effort to make said epidemiology check with our known contagious-infectious diseases, skepticism is rampant even among the active proponents. Peabody, for example, argues by analogy, "We do not know to date of any disease occurring in groups except on the basis of

contagion or infection." Our obvious answer is that while food poisonings occur sporadically, more commonly they attack smaller or larger groups, and normally are not controlled until the source of the poisoning is widely recognized. Later on Peabody concedes, "There is indeed much clinical evidence that seems at present incompatible with the theory of contact infection in poliomyelitis"—for example during the 1916 New York City epidemic of 5,496 cases "no cases occurred among the 30,000 institutional children, who were thoroughly quarantined." And that has been the experience of practically all children's institutions in the larger cities, even when their wards have obviously been exposed to fresh cases brought in during prodromal stages from the outer world, and this applies whether quarantine has been enforced or not. The fact that poliomyelitis never gets a hold or spreads in our larger children's institutions is a "sockdolager" to the contagious-infectious theory, while it agrees perfectly with our present hypothesis. Because it seems fair to assume that every large city institution has for many years past served either a specially guarded milk supply, or the mixed milk of numerous herds, which would automatically eliminate the danger of sufficient atropin-hyoscin concentration for poisoning symptoms.

As regards the relative failure of past attempts to make the epidemiology check with milk supply, it would obviously be a tremendous proposition to prove unless one's mind was directly centered on the possibility of excessive atropin in the suspected milk. The old saying has often verified itself, "One sees only what one is looking for." In the first place by the time the child develops paralysis, the suspected milk has either been all used up or any residue has been thrown away some forty-eight hours ago. Even though one were specifically looking for atropin-hyoscin in milk, a rain or a change of pasture or changing appetite would readily make the milk from the same small herd perfectly innocuous. On account of the important factor of dosage, adults and older children may have partaken freely of the paralyzing milk without noting a single symptom, which is very different from the conventional bacterially infected milk where the equation of dosage exists only in a minor degree. As to the statistical reports that not all children attacked have partaken of milk, well, ice cream certainly, and perchance cooked milk may be the explanation. As to the report

of one man in Massachusetts, 1910 summary, who broke precedent by reporting infantile paralysis in four babies said to have been fed on breast alone, well, no inventor can afford to take idiosyncrasis of statistics overseriously. But two epidemics of about ten cases each have been very definitely traced to the milk supply as the only common factor⁷ while a number of other very suspicious occurrences, as for example the marked relative immunity of the patrons of the Nathan Strauss milk stations in New York City, are noted in some of the larger epidemics. Finally, while it is easy to trace the origin and history of a very unusual article, the problem easily becomes complex beyond human unraveling in the case of so universal a food as milk, delivered from so many and changeable sources.

But without further details of this very complex problem, in the large our epidemiology does agree with the milk supply, i. e., the incidence of poliomyelitis is distinctly highest in the country where a single cow supplies the milk; it is intermediate in the suburbs where single cows and small herds care for a large proportion of the supply, and it is distinctly lowest in the centers of large cities, where for many years the great bulk of the milk has been the filtered, cooled commercial article mixed from numerous herds. Now when I bring this charge against the one cow and the small herd, it goes distinctly against my personal sentiment because I feel we are losing far too much of our one time independence and individuality as is. Therefore, I end as I began with a plea for an impartial investigation from as many viewpoints as possible.

The reaction of various intelligent consultants to this argument shows that the alleged transference of human poliomyelitis to monkeys demands an answer. Now the first item to note is that in spite of the Rockefeller Institute's distinctly forced claims for the contagious-infectious nature of poliomyelitis, no evidence is offered that the disease ever spreads from child to monkey, or from monkey to monkey. Throughout their many years of experimentation, observation and active attempts to transfer without the use of the injecting needle, only one naturally extremely questionable spontaneous transfer is reported. But this alleged monkey poliomyelitis has been accepted so generally and so widely that my

skeptical friends naturally argue, "Come, be reasonable how could trained laboratory workers find a virus and build up an experimental pathology when none exists?" Well, the overwhelming majority of researchers have eliminated all bacteria except that elusive critter, the ultramicroscopic virus. As the evidence for this particular ultramicroscopic is just as good as for any of the other ultramicroscopics, the eventual verification of my hypothesis would necessitate a fundamental reworking of all evidence in connection with these after all hypothetical organisms.

Now my answer is that whereas the lymphocytic infiltration and lymphatic cuffing of the arterioles, capillaries and venules in these injected monkeys is indistinguishable from corresponding stages of human poliomyelitis, the almost universal absence of permanent paralyses and motor cell destruction shows a fundamental difference between this foreign protein reaction of monkeys and human poliomyelitis. I rest my case that this alleged monkey poliomyelitis is simply a misinterpretation of the reaction to an injected foreign protein on the Rockefeller Institute's own evidence, i. e.; that practically any protein containing fluid of either monkey or man, cleared of ordinary bacteria by running through a Berkefeld filter, will produce this reaction in monkeys; that sterile normal horse serum produces a similar reaction; that the incubation period corresponds to conventional foreign protein reactions in averaging about a week; and finally that the reaction in the nerve tissues can be produced much more constantly and by materially smaller dosage when the foreign protein is injected into the cerebrospinal fluid than when given subcutaneously, intraperitoneally or by any other route. Incidentally rabbits and guinea pigs also tend to exhibit a marked foreign protein reaction which tends to be at its height in the organ injected, while such vigorous type animals as dogs and cats show little or no reaction. Finally some of these researchers themselves are more or less accepting the foreign protein interpretation, apparently to date more particularly in criticizing outsider researchers' efforts, and some of them are said to be casting around for new leads.

TENTATIVE CONCLUSION

In view of the fact that all previous efforts to discover the cause and possible prevention of acute anterior poliomyelitis have to date resulted in dissent and failure,

7. Knapp, Godfrey and Aycock: J. A. M. A. **87**:635-639, 1926. Dingman: New York State J. Med. **16**:589-595, 1916.

it would seem the role of reason to have this distinctly original hypothesis given a thorough, widespread and impartial test. Said hypothesis can be summed up briefly, that cows when short of other greens will eat jimson weed, or other marsh loving poisonous plants, in sufficient quantity to cause their milk, when taken in sufficient quantity, to produce the disease known as acute anterior poliomyelitis.

Wall Building.

AN INOPERABLE MULTIPLE VENOUS CIRCUMSCRIBED CAVERNOUS HEMANGIOMA

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On July 24, 1922, an eight year old girl was brought to one of my clinics on account of a sore throat. When she opened her mouth a very unusual finding presented. The entire left half of her tongue (Fig. 1) was a bluish purple color and about twice the size of the right half. This swelling was exactly unilateral.



Fig. 1. Hemangioma of left half of tongue. Right half is normal but appears atrophic in comparison.

Closer examination revealed a purplish discoloration of the left posterior pillar and the upper third of the left tonsil. There was a bluish spider web like area on the buccal mucous membrane of the left cheek. The teeth closed without biting her swollen tongue. Sensing my interest in her unusual condition she volunteered that she had other interesting

findings. By closing her jaw tightly and with forced closed expiration, a soft, deep, non-pulsating, bluish mass appeared at the angle of the left jaw and, also, there was a distinct swelling of the left external jugular vein, just above the clavicle (Fig. 2). These quickly disappeared on expiration.



Fig. 2. Forced closed expiration, showing the supra-clavicular angioma of left anterior external jugular vein and left internal maxillary vein.

Her grandmother stated that the tongue had been discolored since birth but had grown rapidly in the last year and for the first time had interfered slightly with the speech. There had never been any bleeding from the tongue. The child had always been well and free from pain. There was no similar disturbance in any of the relatives.

PROGRESS

For five years I have had this child under close observation. Several times I have sent her to the hospital in anticipation of bleeding from the tongue. The mass, lying as it does in close proximity to the molar teeth, has had small tags bitten off. However, much to my surprise, there has been no appreciable amount of blood lost.

Several consultants have seen her but no conclusions have been drawn as to the best procedure to follow.

May 11, 1927, two ten milligram radium needles were inserted into the tongue for five and a half hours, but there has been no apparent change. There was considerable pain but no bleeding. Since I first saw her the tongue has more than doubled in size. The swelling on the left jaw and the enlargement

of the left external jugular vein are gradually increasing. Just what the outcome will be is difficult to state. Were the lesion confined to the tongue, it could be well managed by ligation but with the apparent involvement of the pharyngeal and pterygoid plexuses and the left external jugular vein, it is difficult to plan a successful surgical attack. I have decided to await any emergencies which may arise.

PATHOLOGY

Since these are blood filled nonpulsating cavities of variable size and bluish in color, they would come under the classification of multiple venous circumscribed cavernous angiomas. According to Wyeth¹ (who attempted cures by the hazardous injection of boiling water) the walls of these spaces possess an endothelial lining similar to that of veins. The findings in this case fit Reder's² description, who says:

A venous angioma may be diffuse, or may form a distinctly circumscribed tumor. A circumscribed cavernous angioma possesses its distinct efferent artery and afferent veins and does not communicate with the neighboring capillaries, i. e., there exists no anastomosis with the capillaries in the surrounding tissue. The angioma shows a circulation wholly within itself, there being only a connection with the neighboring arteries and veins.

Their growth is slow. They increase, however, progressively in size with the growth of the patient, viz, a baby which at three months shows an angioma upon its lip that has the appearance of a fleabite, will exhibit the same lesion the size of a hazelnut nine months later.

These vascular neoplasms are congenital in their origin. They are benignant in character and although their histologic formation closely resembles certain types of malignancy yet clinically angiomas are considered nonmalignant.

One of the principal characteristics of hemangioma is that the entire tumor can be caused to disappear upon pressure, with a prompt return to its original size as soon as the pressure is removed.

Another characteristic is the prompt response in reflecting the temperament of its possessor, excitable influences causing the tumor to swell, become tense, and more deeply discolored. This is accomplished through elastic fibers, closely resembling the normal erectile tissues of the body, which are contained in the connective tissue stroma.

From statistics it must be inferred that the face is the favorable locality for an angioma, two-thirds of these growths being located there.

The brow and the cheeks seem to be selective regions. Next in frequency come the lips, the nose, the ears, and the eyelids. Strange as it may appear, the feminine sex is more prone to this affection than the male, two-thirds of all cases occurring in females.

902 Medical Arts Building.

INDUSTRIAL VISUAL EFFICIENCY LOSS

WALTER L. SMALL, M.D.

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Every medical examiner who reports an industrial ocular injury with a resultant loss of visual efficiency should give our Workmen's Compensation Commission his loyal and intelligent cooperation by complying, in detail, with instructions given in Revised Bulletin No. 5, of the Missouri Workmen's Compensation Commission, and by giving all available additional data pertaining to the reported injury.

That compensation awards for lost visual efficiency may be accurately and promptly made, it is necessary that the examiners report the following findings:

1. Traumatic results, size and location.
2. Central visual acuity for 20 feet, expressed in Snellen notations
3. Central visual acuity for 14 inches, expressed in Jaeger notations
4. Exact perimetric readings in the eight principal radii of the industrial visual field
5. Fractional portion of the industrial motor field wherein diplopia exists.

If an injury of a single eye is being reported and the visual efficiency of the uninjured eye is 100 per cent., no other information concerning the uninjured eye is necessary.

If the visual efficiency of the fellow eye is less than 100 per cent. the result of disease, refractive error, previous injury or any other cause, the same information relative to it as is required for the injured eye should be reported.

If the ocular injury being reported was sustained only by one eye, the visual efficiency of the fellow eye shall be taken as the basis on which the compensation award will be computed, unless there is known to have been a preexisting subnormal visual efficiency of the fellow eye which is the result of an injury.

If an authenticated report is produced showing that the fellow eye has previously sustained a partial visual efficiency loss by injury, the visual efficiency of the injured eye shall be assumed to have been 100 per cent. unless negative evidence is produced, and the compensation award shall be computed on the estimated visual efficiency of the injured eye prior to its injury.

If the visual efficiency of both eyes is known to have been reduced by previous injury, the basis for evaluation of the compensation award for the later injury of

1. Wyeth, John A.: *The Treatment of Vascular Neoplasms by the Injection of Water at a High Temperature*, New York M. J. 76:969, 1902.

2. Reder, Francis: *The Treatment of Cavernous and Plexiform Angiomas by the Injection of Boiling Water*, St. Louis. C. V. Mosby Company, 1918, pp. 18-19.

an eye shall be the actual visual loss, as nearly as it can be determined, incurred by the later injury.

In the event an injury to both eyes is being reported give, if possible, an authenticated report of the visual efficiency of each eye prior to the injuries.

If no dependable evidence is produced that the employee had experienced a previous visual efficiency reduction, the visual efficiency of each eye shall be assumed to have been 100 per cent. prior to the injuries, and awards for visual efficiency loss shall be estimated separately for each eye.

Comprehensive information relative to ocular history and findings, upon examination, if accurately reported, is of far more assistance to our Workmen's Compensation Commission than an arbitrary expression of a percentage of visual efficiency loss without an explanation of the process of estimation.

In Missouri, awards for compensation for industrial visual loss are based on the retained efficiency values of the three primary and coordinate factors of vision. These factors are: (1) Central visual acuity efficiency, (2) visual field efficiency, (3) motor field (ocular muscle function) efficiency.

Each of these primary factors must be accurately measured and recorded in compliance with methods demonstrated in the questionnaire that follows.

The exact measurements of these three visual efficiency factors must be resolved into their percentage equivalents before correct computations can be made for visual efficiency loss.

It is necessary to understand and to differentiate the one from the other, *central visual acuity*, *central visual efficiency* and *visual efficiency*. Each of these terms has an entirely different significance.

Visual field efficiency must be reported, giving the perimetric readings in the eight principal radii of the industrial visual field, using a white target.

Motor field (ocular muscle function) efficiency must be determined and reported, using the industrial motor field chart proposed in the 1925 report of the Committee on Compensation for Eye Injuries of the American Medical Association.

A complete exemplification of the proper procedure in the estimation of visual efficiency loss is given in the following questionnaire:

QUESTIONNAIRE

1.

Q. What are the three primary and coordinate factors of vision?

A. They are: (a) central visual acuity efficiency; (b) field of vision efficiency, and (c) ocular muscle function efficiency.

2.

Q. How is central visual acuity determined?

A. Central visual acuity is determined by the employee's ability to read at a distance of 20 feet, and to read at a distance of 14 inches. The former is expressed in Snellen notations, 20/20, 20/30, 20/40, etc.; the latter is expressed in Jaeger notations, No. 1, No. 2, No. 3, etc.

3.

Q. How is central visual efficiency determined? Illustrate.

A. Central visual efficiency is determined by the weighted percentage values assigned for central visual acuity at 20 feet, and for central visual acuity at 14 inches. A one fold value is given for the former, and a two fold value is given for the latter.

To illustrate, if the central visual acuity for 20 feet is 88 per cent., and the central visual acuity for 14 inches is 60 per cent., the central visual efficiency of the eye in question, is:

$$\frac{(.88 \times 1) + (.60 \times 2)}{3} = .6933 \div \text{or } 69 \frac{1}{3}\%$$

4.

Q. How many principal radii comprise the industrial visual field; how is the extent of the visual field determined?

A. Eight principal radii comprise the industrial visual field. The extent of the visual field is determined by the usual perimetric test methods, using a white target.

5.

Q. What is the extent of the normal industrial visual field, expressed in degrees?

A. From a central fixation point, the normal industrial field extends in degrees outward 65, down and outward 65, down 55, down and inward 45, inward 45, inward and up 45, upward 45, and upward and outward 55.

6.

Q. How would you determine the visual field efficiency of one eye in per cent?

A. Add the perimetric readings of the eight principal radii of the field in question. Divide this sum by 420 (the sum of the eight principal radii of a normal field). The result will be the visual field efficiency, in per cent., of the field measured.

7.

Q. What is meant by normal industrial eye muscle function?

A. Normal industrial eye muscle function means that there is an absence of diplopia in the entire field of binocular fixation.

8.

Q. What is an industrial motor field chart, and how is motor field (ocular muscle function) efficiency determined?

A. A motor field chart is a diagram divided into twenty rectangles, each 4 x 5 degrees in size. The partial loss to ocular muscle function due to diplopia is the fractional area shown on the plotted chart wherein diplopia is indicated.

By referring to table No. 2, of the 1925 report of the Committee on Compensation for Eye Injuries of the American Medical Association, there will be found, expressed in percentages, the motor field effi-

ciency retained after various fractional portions of the motor field of binocular fixation are lost.

9.

Q. How is industrial visual efficiency of one eye determined? Illustrate.

A. Industrial visual efficiency of one eye is determined by multiplying the retained percentage of central visual acuity efficiency by the retained percentage of the visual field efficiency. This product is then multiplied by the retained percentage of motor field (ocular muscle function) efficiency.

To illustrate, if central visual acuity efficiency is 70 per cent., visual field efficiency is 60 per cent., and motor field efficiency is 100 per cent., the visual efficiency of that eye is: $0.70 \times 0.60 \times 1.00 = 0.42$ or 42 per cent., which indicates a visual efficiency loss of 58 per cent.

10.

Q. How would you proceed to evaluate the amount of lost visual efficiency to an employee's left eye, whose right eye visual efficiency is 100 per cent., and whose final report on Workmen's Compensation form No. 9, shows, under paragraph 20, the following accurate findings?

The right eye visual efficiency is 100 per cent.

The nature and extent of permanent disabilities to the left eye are: A round corneal scar 2 mm. in diameter, situated about half way between the center of the cornea and the pupillary margin, at about 3:00 o'clock if the cornea were a clock dial.

Left central visual acuity for 20 feet is 20/60 Snellen, and No. 4 Jaeger for 14 inches.

The left field of vision is indicated by the following principal radial limits, in degrees: 40, 50, 45, 45, 45, 40, and 47.

Loss of the left eye muscle function is shown on the industrial motor field chart to be 6/20.

A. By referring to Workmen's Compensation Revised Bulletin No. 5, it will be found that 20/60 Snellen central visual acuity equals 60 per cent., and No. 4 Jaeger equals 77.4 per cent.

The *central visual acuity efficiency*, therefore is:

$$\frac{(.60 \times 1) + (.774 \times 2)}{3} = .716 \text{ or } 71.6\%$$

The sum of 40, 50, 45, 45, 45, 40 and 47, the principal radial limits, expressed in degrees, is 357. This sum should be divided by 420 (the sum of the principal radial limits of a normal visual field). The result is 0.85; therefore the left *visual field efficiency* is 85%.

If there is a loss of 6/20 of the motor field area, a reference to table No. 2, of the 1925 report of the Committee of the American Medical Association on Compensation for Eye Injuries, it will be found that there is retained a *muscle function efficiency* of 84%.

To determine the left eye visual efficiency, multiply the percentage retained of central visual efficiency, 71.6%, by the percentage of retained visual field efficiency, 85%; then multiply this product by the retained percentage of muscle function efficiency, 84%. Thus: $0.716 \times 0.85 \times 0.84 = 0.511224$ or 51.12 + %. This is the retained visual efficiency of the left eye which, of course, is a loss of 48.88%, of the left eye visual efficiency.

Our compensation law provides an award of 108 weeks of compensation for the complete loss of visual efficiency of one eye. The award for a loss of 48.88 per cent. of the visual efficiency of one eye obviously is determined as follows:

$$.4888 \times 108 = 52.79 \text{ or } 52.79 \text{ weeks.}$$

The employee whose ocular disabilities are recited in question 10, would be awarded 52.79 weeks of compensation at 2/3 of his average earnings, if that amount were not less than six nor more than twenty dollars each week.

822 Argyle Building.

MISSOURI WORKMEN'S COMPENSATION COMMISSION

April 1, 1928.

REVISED BULLETIN NO. 5

PARTIAL VISUAL EFFICIENCY LOSS

1. Instructions published in Bulletin No. 5 of the Missouri Workmen's Compensation Commission shall be so amended and revised that they comply with the instructions herein given.

2. In every case of ocular injury, there shall be reported to the Commission, the central visual acuity findings of *each eye*, both with and without the use of correcting lenses. Central visual acuity tests shall be made for distance vision at 20 feet, and for near vision at 14 inches. These findings shall be recorded in Snellen notation for distance vision, and in Snellen or Jaeger notations for near vision.

3. The extent of the visual field of *each eye* shall be determined by the usual perimetric test methods, and the findings recorded on visual field charts.

4. Extra-ocular muscle function shall be determined in all parts of the motor field, by any standard and recognized method. If diplopia exists in any portion of the field of binocular fixation, the fractional portion of the field wherein diplopia exists shall be determined and reported. If diplopia does not exist, a statement of that fact shall be made.

5. Corneal scars, opacities in the lens, synechia, disturbance in the pupillary reactions, anterior chamber exudates or hemorrhages, vitreous opacities, intra-ocular foreign bodies, fundus changes and any other evidences of injury to either eye shall be reported, giving size, location, shape, amount, and any other descriptive data of every traumatic result.

6. To determine the amount of partial visual efficiency loss, the method of procedure proposed in the approved and adopted 1925 report of the Committee on Compensation for Eye Injuries, appointed by the Section on Ophthalmology of the American Medical Association, shall be used, except as stated in the following table:

Diopter or Meter	Jaeger	SNELLEN NOTATIONS		Central Visual Acuity Retained	Central Visual Acuity Loss
		At 14 Inches	At 20 Feet		
0.37 D	No. 1	14/14	20/20	100.0%	00.0%
0.50 D	2	14/21	20/30	88.0%	12.0%
0.62 D	3	14/24	20/33	84.7%	15.3%
0.75 D	4	14/28	20/40	77.4%	22.6%
0.87 D	6	14/35	20/50	68.1%	31.9%
1.00 D	8	14/42	20/60	60.0%	40.0%
1.25 D	9	14/49	20/70	52.7%	47.3%
1.50 D	10	14/56	20/80	46.4%	53.6%
1.75 D	11	14/70	20/100	35.9%	64.1%
2.00 D	12	14/84	20/120	27.8%	72.2%
2.50 D	14	14/98	20/140	21.5%	78.5%
3.00 D	16	14/112	20/160	16.7%	83.3%
3.50 D	17	14/140	20/200	10.0%	90.0%
4.00 D	18	14/168	20/240	06.0%	94.0%
6.00 D	19	14/224	20/320	02.1%	97.9%
8.00 D	20	14/336	20/480	00.3%	99.7%

PAINFUL BACK

ARCHER O'REILLY, M.D.

ST. LOUIS

Painful back is a troublesome medical condition, especially as regards the types that are not the result of diseases of the spine, such as tuberculosis and other acute infections.

Backache may be divided into three classes: (1) Traumatic; (2) arthritic; (3) static or postural. These different forms will be illustrated by case histories.

TYPE 1. TRAUMATIC

Case 1. W. W., male, 24, married, laborer. The general history is unimportant. He denies venereal disease.

Present history. Two days ago while lifting a sack of cement the patient felt a sudden sharp pain in the back. Since that time the pain has been very severe in the lumbar region, especially on attempted motion. Standing is painful and the patient is unable to work. Pain is more marked on the right side.

Physical examination. An apparently well developed young man, normal physically except in the back. On standing there is distinct muscle spasm in the lumbar muscles; this is increased on attempted motion. On palpation there is tenderness over the lumbar muscle on the right side. On forward bending the spine is fairly flexible, pain is more severe on straightening the spine. There is some limitation on lateral motion. Pain is increased on bending to the left. Passive hyperextension is painless. Motions of hips are free, both with knees flexed and extended.

An X-ray of the spine and sacro-iliac region is negative.

Diagnosis. Sprain of back.

Case 2. R. E., male, 49, single, laborer. Has never had rheumatism. Denies venereal infection. About thirteen years ago had sciatica for six or seven weeks.

Present illness. Eight days ago had a catch while getting out of a chair. Has been unable to work since. Pain is in left hip and runs down leg to calf.

Physical examination. Well developed man. General physical examination normal. Stands with lumbar curve slightly flattened. Marked muscle spasm in lumbar spine; all motions guarded. When asked to localize pain patient puts hand over left sacro-iliac joint. On forward bending lumbar spine is rigid. Flexion beyond forty-five degrees is painful and causes pain to be referred down left leg. Lateral and backward bending limited. Pressure over left sacro-iliac painful, pain over right sacro-iliac absent. Feet moderately pronated. In recumbent position all motions of hips with knees flexed are free. With knees extended attempted flexion of left hip causes marked pain in left sacro-iliac joint. Right hip can be flexed to about sixty degrees without pain. Knees are normal.

X-ray of lumbar spine and sacro-iliac is normal.

Diagnosis. Sacro-iliac strain.

In Case 1 we have a simple sprain of the back. There is a definite history of trauma which is very similar to Case 2 but there is a distinct difference in the symptoms. In Case 1

there is pain over the lumbar muscles. In Case 2 the pain is distinctly limited to the sacro-iliac. In Case 1 pain is absent or diminished in those motions which do not put a strain upon the injured muscle. The sacro-iliac sign (flexion of the hip with the leg extended) is also absent. The negative X-ray excludes any bone injury.

Back strain may be due either to a tear of the spinal muscles or muscle fibres or to a ligamentous tear. In the latter case the pain is usually more deep seated and may grow worse some time after the injury. Active and passive motions produce the same amount of pain. Convalescence is longer. If the injury occurs in the region of the fifth lumbar the diagnosis between a lumbar and a sacro-iliac strain may be more difficult. In the first case, however, the pain is usually above the sacro-iliac joint and the sacro-iliac sign is usually less marked.

The treatment is the same for both the muscle and the ligamentous injury. The back should be strapped and put at rest. In the more severe types, especially in ligamentous strain, a corset or canvas jacket may be used to support the spine. This is to be followed by baking and gentle massage.

In Case 2 we have a well developed man whose posture is on the whole good. The history of an acute onset with a negative X-ray might suggest an acute back strain. In sacro-iliac strain patients frequently refer to pain in the hip. This is probably because the pain is low and to one side. When asked to place their finger on the point of tenderness they place it over the sacro-iliac. The pain in sacro-iliac strain is very acute and often is not relieved by position or rest. Pain down the leg, along the sciatic nerve is also suggestive. The sacral plexus is very close to the sacro-iliac joint so that the pain is caused, probably, by inflammation about the joint, not as a rule by actual movement or displacement of the joint itself. In sacro-iliac strain the pain is increased by forward bending and by leg raising and is definitely localized over the sacro-iliac joint. On flexing the extended leg there is pain almost as soon as the leg is raised and before the lumbar spine begins to flatten. This fact differentiates between movement in the sacro-iliac joint and in the lumbar spine. Strong pressure over the crests of the ilium also causes pain in the joint. This is a point of differentiation and tends to localize the injury in the joint. The X-ray is negative. This is usually the case in the vast majority of sacro-iliac strains. Usually there is a sprain or injury to the ligaments without displacement and so does not show in the X-ray. In those cases in which

there is a demonstrable displacement there has usually been such a violent injury that a diagnosis can almost be made without an X-ray.

In severe cases there may be a displacement of the lumbar spine to the side opposite the injury, with a flattening of the lumbar curve.



Fig. 1. Adhesive strapping, showing the straps interlaced.

This is very similar to the condition seen in persistent sciatica. There is much more tenderness, however, over the sacro-iliac joint and pain on manipulation.

At times the patients say they can feel a slipping in the region of the pain, at other times they say they feel as if they were coming to pieces. This is especially true in the later stages of pregnancy when the pelvic girdle is relaxed.

The diagnosis of sacro-iliac strain is not as simple as this case might suggest. A number of orthopedic surgeons do not believe that there is such a condition. Sprain of the lumbosacral region is also frequent. The symptoms in these cases are practically the same as in a sacro-iliac strain.

The lumbosacral region is one in which there are many variations and anomalies. Probably one of the most frequent causes of pain in this region is slipping of the lumbosacral articulations on one or both sides. This is probably due to trauma in most cases, but when present it may later result in postural defects and static backache. In a certain number of cases there is a large transverse process of the fifth lumbar which may be either unilateral or bilateral. This may impinge on the crest of the ilium, causing pain. This is probably not very common as there is normally a con-

siderable distance between the transverse process and the ilium. In the X-ray one can easily be mistaken in this, however, because the shadows overlap and therefore seem to impinge. In rare cases there is an actual joint between the process and the ilium. In cases of this sort there may be a sprain, as in any other joint; once the lesion has started, irritation is kept up by the leverage of the process and the motion of the spine. A sacralized transverse process of the fifth lumbar vertebra may be the cause of backache in this region. A bifurcation of the first sacral and spinous process of the fifth lumbar is a rather frequent condition and seems to predispose to backache. All these types can be differentiated from a true sacro-iliac sprain by the X-ray.

The treatment for sacro-iliac sprain and the various types mentioned above is practically the same. In the less severe cases a simple strapping with adhesive plaster is often sufficient. (Fig. 1.) This strap should be tight and should extend across the sacrum and must be carried in front of the anterior superior spines on both sides. In width it should run between the crests and the trochanters. A convenient method of applying strapping is to use two strips of adhesive plaster about four inches wide and in length about two-thirds the distance from anterior superior spine across the back. These are then split about two-thirds of their length. The unsplit portions are then applied over the anterior spines and the tails are crossed over the back. The lower tails should be tightened first. Any desired amount of tension can be secured in this way with ease. Where the symptoms are very severe the patient should be kept in bed with a support to the back. It is essential in these cases that the bed should be firm. It is often necessary to secure this rigidity by putting boards between the spring and the mattress.

Adhesive strapping cannot be worn for more

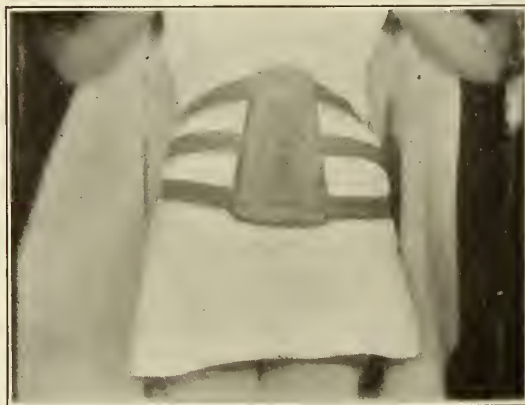


Fig. 2. Osgood brace; back.

than four or five days or a week, as a rule, without causing irritation of the skin. Where a support has to be worn for a longer period some other form must be used. (Fig. 2.) The simplest of these is a canvas belt which fits about the pelvis, supports the sacro-iliac and presses the pelvic bones together. In some cases patients have secured relief by wearing a simple leather belt about the pelvis. (Fig. 3.) In women it is usual to give them a front lace corset with the belt attached to the outside of the corset. The corset itself need not be high but it gives added support to the hips and to the back. The modern elastic girdle or abdominal support is useless in sacro-iliac strain. It does not give the support that is necessary to hold the parts together. In the more severe cases, especially in which there is a sciatic scoliosis, it is often necessary to apply a plaster of Paris jacket. Sometimes this must be carried down over the thigh to immobilize the affected joint.

Manipulation of the joint may sometimes give relief. This, however, should never be attempted until after good X-rays have been obtained and one is sure that there is no disease or other contraindication present.

Heat is beneficial in the acute stage in relieving the pain. This may be aided by massage as the acute pain diminishes.

A point to be remembered in the treatment of sacro-iliac patients in bed is that they should not be allowed to sit up in an erect or semi-erect position with their feet in bed. This causes an irritation of the joint similar to that in bending over or when the leg is raised with the knee extended. If the patient must sit up the knees should be flexed over the side of the bed, or a fairly straight-backed chair with a support to the back should be used.

In women especially one should always inquire whether they are in the habit of taking daily exercises. One frequently finds in back-aches that are difficult to relieve that the pa-



Fig. 3. Osgood brace; front.

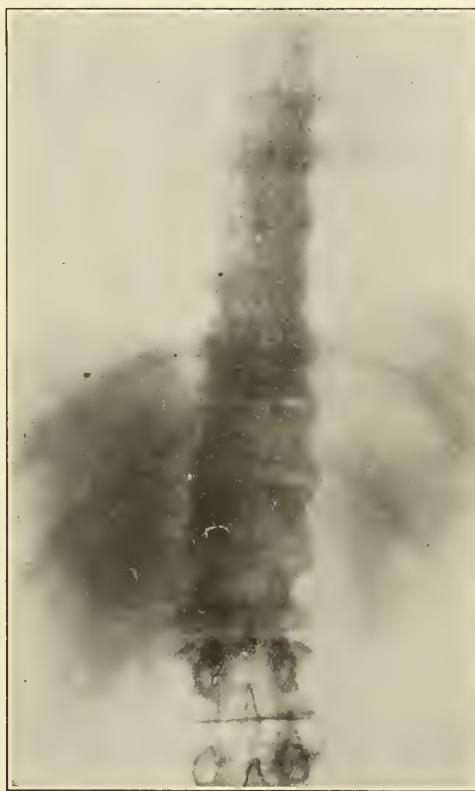


Fig. 4. Arthritis, showing bony overgrowth.

tient is continuing with her exercises, especially the ones in which she bends forward and touches her toes with the fingers, or lies on the back and raises the knees with the feet extended. Both of these are constantly irritating the back.

Case 3. A. W., male, 28, single, laborer. F. H. Unimportant. P. H. Has always been well. Denies venereal. P. I. One month ago was hit on back by a beam. Was knocked down, unconscious for a few minutes, but was later able to walk with assistance. Was in bed for about two weeks; suffered a good deal of pain. Was later allowed to get up and came to St. Louis; as he did not improve was sent to hospital.

Examination. Well developed colored man. Is fairly comfortable while in bed but complains of pain in back, especially on motion. Heart, lungs and abdomen normal. Reflexes normal.

On standing there is marked muscle spasm in back. All motions are guarded and the spine is rigid. Complains of pain in lumbar region about level of second, third, and fourth lumbar vertebrae. There is also tenderness on palpation in this region, more marked on left side.

X-ray shows a compression fracture of the third lumbar without displacement; also a fracture of the transverse process of this vertebra on the left side.

Wassermann, 4 plus.

Diagnosis. Fracture of third lumbar vertebra and fracture of transverse process of third lumbar on left side.

Frequently as a result of a blow upon the back when it is flexed or as a result of a fall

there may be a compression fracture of the spine. The amount of impaction is often so slight that there are no noticeable signs on inspection and unless a picture is taken the lesion may easily be overlooked. In all these cases two views of the spine should be made. Often a fracture not visible in the anteroposterior view will show up clearly in the lateral. In the later stages there may in some cases be a moderate amount of absorption at the site of the fracture with some increase in the deformity and a prominence of the spinous process. If there is a tendency to arthritis the accident may result in an exacerbation with marked increase in the symptoms, a much longer convalescence and probably an increased amount of permanent disability. In the present case the patient has a four plus Wassermann which may result in serious complications. In this case he should have vigorous treatment for the syphilis in addition to the local treatment.

The treatment for these fractures of the spine is rest in bed for at least a month with the back supported by a plaster jacket. This should be worn for at least six months; then some type of removable support should be substituted, in the form of a split jacket or a spinal brace. Baking and massage should also be commenced at this time. Convalescence is slow and usually takes from one to two years. There is usually some permanent disability afterwards in the shape of limitation of motion and pain on lifting.

Another type of injury to the spine is one that results from a blow on the back or some sudden and violent muscle strain. This results in a fracture of the transverse processes of the spine. In these cases there is pain in the back with marked muscle spasm and tenderness on pressure. The symptoms are usually more marked on the side of the injury.

The treatment is similar to that of the compression fracture. The disability may be quite prolonged, however, due to failure in union.

Spondylolisthesis is a slipping of the fifth lumbar on the sacrum. It is usually the result of a violent fall. The lumbar curve is increased, the sacrum is more prominent and there may be some limitation of motion. In some cases spondylolisthesis seems to occur spontaneously; at least cases are seen in which there is no history of injury and in which the main complaint is a backache.

The diagnosis is mainly made on the X-ray. The anteroposterior view is, as a rule, not very conclusive owing to the variations in the lumbosacral region and to the position of the patient when the picture is taken. In the characteristic picture there is a tipping up of the spinous process. In the lateral view, how-

ever, when this can be obtained the lumbar spine is shown to have slipped forward and downward.

The treatment consists in supporting the spine by proper supports, braces or belts, or by plaster jackets in the more severe cases. In very severe cases a bone graft may be used to anchor the lumbar spine to the sacrum.

In all cases where there has been any spinal injury, no matter how slight, an X-ray should be insisted upon. The pictures should always be taken in two planes. When the X-ray is secured the plate should be very carefully studied. In many of these pictures, even the best, the line of fracture is not very distinct and unless the plate is gone over thoroughly with the question of fracture in mind it may easily be overlooked. If the fracture is missed it will mean a protracted period of disability with probably a much greater degree of permanent disability for the patient.

Case 4. M. W., male, 52, married, clerk.

Past history. Has never had any serious sickness. Wife living and well, two children living, one died of diphtheria when child, one miscarriage. Patient has always had more or less sore throat. Has never had any trouble with his teeth. Had gonorrhea when twenty; denies syphilis. Has no discharge at present; no urinary symptoms.

Present illness. Has pain in back. Pain is more marked in small of back and also in chest. Worse in the morning and after resting for a while. Has been getting worse for about a year. Bowels regular.

Physical examination. General appearance fair, slightly undernourished. Heart and lungs are negative. Tonsils large and injected. Teeth in poor condition with numerous fillings; the chest is flattened. The back is flat with rounded shoulders. Motions of the spine are restricted in all directions. Forward bending is mostly at the hips. There is some lateral motion but bending to right and left takes place in different segments. Motion of shoulders, elbows and hips is free. There is some thickening about the phalanges of both hands with limitation of motion. Motion of knees is normal in extent but is accompanied by crepitus. The feet are pronated and the arches are low.

Genito-urinary examination is negative.

Nose and throat examination reports chronic inflammation of the tonsils and advises removal.

X-ray shows marked osteo-arthritis of the spine, especially of the lumbar region. X-ray of the teeth is negative.

Wassermann negative.

Diagnosis. Osteo-arthritis of spine.

In this case the history is quite different from that of the other cases except in Case 5. In the others the onset was sudden, following a trauma, while in Cases 4 and 5 the onset was more or less gradual. A sudden onset is not always absent in this type of case, however. Often the arthritis has been present but not of sufficient severity to attract attention until the patient has received some injury. Following

this the symptoms have become very much exaggerated, probably because the process has flared up as a result of the injury. For this reason simple injuries are often much more serious than would at first appear. In arthritis the symptoms and physical signs are different from those in the other cases. The pain is usually more generally distributed over the spine, though it may be localized in one or more places. It is usually worse in the morning, diminishing as the patient is up and about, and getting worse after resting. Referred pain is also common due to irritation of the spinal nerves. This is most frequently seen in the chest, though there may also be referred pains down the legs, especially in arthritis of the sacro-iliac joints. In many cases the referred pain is the one first complained of.

The rigidity of the spine is different from that of the other cases. In arthritis, motion is limited by bony interference in the spinal articulations. Only in the more acute cases is there protective muscle spasm. The spine may be rigid as a whole or it may bend in segments either on forward bending or laterally. In the acute and subacute stages there may be considerable pain on motion. As the motion becomes less the pain decreases as a result of the internal splinting.

In arthritis cases there is usually some sign of arthritis elsewhere, though the process may be confined to the spine. Usually the sacro-iliac joints are involved, giving rise to symptoms similar to those of sprain of the joint. As a rule the onset is more gradual, though here again the symptoms may be brought on by some trauma and the condition greatly exaggerated.

In arthritis of the spine the posture may vary. The spine may be either perfectly straight, the lumbar spine may be flat with round shoulders or there may be marked lordosis. This depends upon the process and to a great extent upon the occupation of the patient.

The X-ray will as a rule differentiate between arthritis and the other types causing painful back. The exostoses will be evident in the picture. Anteroposterior and a lateral view should be taken whenever possible because the bone deposits frequently show up more distinctly in one position than in the other. Another important point to remember is that in the early cases there may be marked reaction without much bone deposit having taken place. In these an X-ray will show only a slight lipping at the vertebral borders.

The treatment of arthritis of the spine is based on relieving the symptoms and curing the disease as far as possible.

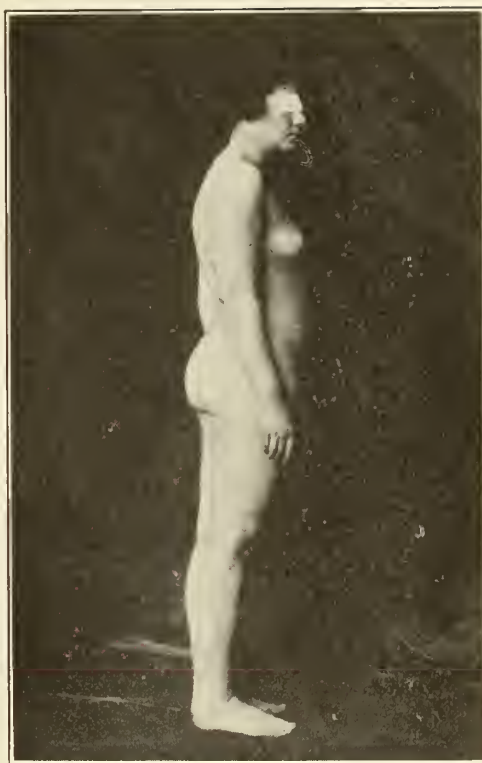


Fig. 5. Faulty posture.

Relief of the symptoms may be secured by resting the affected part. This is best secured by some type of support for the spine. If the lesion is confined to the lower spine a belt fashioned along the lines of the sacro-iliac belt but wider so as to support the lumbar spine may be adequate. If the lesion is more extensive a back brace or some type of jacket may be necessary. The brace should be simple with two uprights running on either side of the spine with a pelvic girdle and shoulder straps. In women the uprights are generally fitted in a frontlace corset. The jacket can be made of celluloid or leather. A simple method is to apply a plaster jacket, then split it down the front and fasten it together with straps or laces. Any support given should be removable so that the patient may be given baking and massage, a very important adjunct to the treatment in relieving the pain and improving the general condition.

In order that the disease may be arrested or cured all foci of infection should be removed. This means a very careful cooperation between the orthopedic surgeon and the other specialists. The foci that cause arthritis are small and easily overlooked so that, unless the examinations are thorough some small focus may be missed. The tonsils and teeth are the first things thought of. Another very important source of infection is the sinuses. These are

often overlooked even by competent nose and throat men. The gastro-intestinal tract, the genito-urinary tract, and the female pelvis may also be the site of infection.

Arthritis is a disease in which there is a marked tendency to ankylosis and deformity. This point must be constantly in mind during the treatment, so that the back may be held in a position which will give the least amount of deformity should it become ankylosed. For this reason one should avoid having patients lie in bed for any great length of time with pillows and props under their heads and backs. Very serious deformity may result from this with extreme curving of the neck and back so that at times the patient is so stooped that he cannot look forward. Lying on a hard bed on the back will tend to correct a tendency to stoop.

Case 5. M. M., female, 38, married, housewife. *Past history.* Unimportant. No female complaints. Menstruation regular but pain in back is worse at this time.

Present illness. Has had pain in lower back for two or three years, worse after standing or after walking. Is worse in evening. Also has pains in feet and in knees. Does not wear corsets as they are too much trouble but is more comfortable when she does wear them.

Physical examination. Heart, lungs, etc., are normal. Patient is fat with large pendulous abdomen. On standing there is marked lordosis and the general posture is bad. Moderate muscle spasm of the lumbar muscles. There is some limitation on forward and lateral bending. The hips are normal. Knees are normal. The feet are flat with some limitation of motion, especially in inversion. Dorsiflexion is possible only to within ten degrees of right angle.

X-rays of the lumbar spine and of the knees are negative.

A gynecological examination does not show any pathology.

Diagnosis. Static back strain.

This history is different from the other types in that the pain is distinctly worse after the patient has been standing or walking or is tired. This would suggest a static strain.

The physical examination shows that there is a serious postural defect. The abdomen is large and relaxed. The spinal curve is increased, the dorsal spine is thrown back and the head forward resulting in a position of round shoulder and sway back. This posture throws an abnormal strain on the muscles and ligaments of the spine resulting in a backache. This strain is increased by the shortening of the posterior muscles of the legs.

Pain may be bilateral or unilateral; it is generally, however, more severe on one side. There is usually some muscle spasm which increases with the severity of the pain. In some cases there is tenderness over the spinous processes. This is not of great importance except

to indicate a tendency to neurasthenia. The pain is of a dragging character and may be in any part of the spine but, as a rule, it is more common in the lower part of the back near the lumbosacral articulation. In low back pain there may be some difficulty in differentiating the postural type from a sacro-iliac strain, especially if the posterior muscles are short. When this is the case raising the extended leg also causes pain in the back. As a rule, however, there is more acute pain in a sacro-iliac sprain; it is usually lower and more definitely to one side. There is also more muscle spasm.

A congenitally short leg may also cause severe backache. In this type there is usually some lateral deviation.

There is another form of backache in women which may simulate that of the postural type. This is due to some displacement of the uterus with descent of the cervix and engorgement of the ovaries and their veins. In these cases the pain is confined to the sacrum or lower lumbar region. They are also definitely more severe during the menstrual period.

In men, enlarged or inflamed prostates may also be the cause of painful back. But these are probably not as common as are supposed.

Another type of backache that might be mentioned in this connection is the postoperative type. Many patients who have had a serious operation under a general anesthetic complain of a severe dragging pain in the lumbar region. This is due to a relaxation of the muscles and a flattening of the normal lumbar curve with a consequent strain of the tissues in this part. There may also be some strain in the sacro-iliac joints. This condition can easily be relieved or prevented if a small, rather hard pillow is placed under the patient's lumbar spine as soon as he is put to bed after the operation. It would in fact be better if whenever consistent with the operation a pad were placed under the patient while on the operating table. If these precautions have not been taken, a pad under the back accompanied by heat and gentle massage will usually relieve the condition.

A back strain may also be caused or perpetuated by driving an automobile in a bad position. This is especially true in those types of car in which the driver has to slump down and sits on the lower end of the spine with the shoulders resting on the seat, the so-called sport type of car. In these cases there may be a persistent backache which is not relieved until the sitting posture has been changed and some support has been given to the lumbar spine. The posture assumed in driving an automobile should always be looked into in cases of persistent backache.

The treatment of static back conditions re-

quires a good deal of care and attention and is not always easy. The posture must be corrected by proper exercises. Until the patient has been trained to assume the correct attitude some form of support to the back must be worn to relieve the pain. This can best be done by a well fitting corset, preferably front lace. A point in wearing a front lace corset is that it should be put on with the patient lying down. This allows the abdomen to fall back into place and it is then held by the corset. In men an abdominal belt can be worn which will support the abdomen and back. If the feet are flat this condition should be corrected by proper shoes and supports. When the gastrocnemii are short these may be stretched or the heels of the shoes may be raised. This lessens the strain and tends to flatten the back and relieve some of the strain on the muscles and ligaments. Massage and heat are of value in relieving the pain and in strengthening the muscles. Postural exercises are, however, most important. These exercises, unless there is some very good reason, should be taken under the supervision of the physician or other competent person. Otherwise the patients become careless and fail in some of the most important points. In women a gynecological examination is of value to determine the possibility of some pelvic cause for the backache. This, however, is not advisable in younger women unless there is some definite reason to suspect a uterine cause. Even in the presence of some pelvic condition it is advisable to try orthopedic treatment before undertaking or advising an operation to cure the backache.

At best, back injuries are much more serious than similar injuries to any other portion of the body. They may be accompanied by a train of nervous symptoms which seem out of all proportion to the severity of the injury. This is probably due to the proximity of the spinal cord and nerves. These nervous symptoms are very real as far as the patient is concerned. They add greatly to the difficulty of treatment. In litigation they render the case more complicated, because while the physician may feel sure of the truth of the patient's statements, there may be very little to confirm this in an X-ray picture.

3534 Washington Ave.

OBSERVATIONS ON THE EFFECTS OF FEEDING BONE MARROW IN MYELOGENOUS LEUKEMIA

REPORT OF A CASE

JOSEPH P. COSTELLO, M.D.
ST. LOUIS

The etiology of the leukemias is unknown. The diseases known under this classification

occur either as lymphoid or myelogenous leukemia and both, especially the latter, may be acute or chronic. Atypical leukemias are frequently described in the literature. Ramsay¹ made an analysis of the clinical features of 100 cases of leukemia occurring in children under eight years of age. He found that enlargement of the spleen, lymphatic glands and liver, fever and various forms of hemorrhage are common features. He emphasizes the fact that the disease runs an acute course and that a patient rarely lives longer than two months after the diagnosis has been made. He also analyzed 19 cases of myelogenous leukemia in which a large absolute lymphocytosis was a common feature. Hunter² studied 22 cases of leukemia in childhood. He reported that the course of the disease in childhood is usually more acute and that the differentiation into the myeloid and lymphoid types is frequently a matter of difficulty.

The diagnosis of leukemia depends primarily on a careful study of the blood smear. In the acute forms of the disease Graham's³ oxydase test, if positive, quite definitely identifies the myelogenous type. Davey and Whitby⁴ in a recent contribution present new features in the diagnosis of acute leukemia.

The pathological anatomy is centered primarily in the spleen, the lymphatic glands and the bone marrow. A detailed description of the histological pathology is beyond the scope of this paper. Of interest however are the changes in the bone marrow where the normal bright yellow "fat marrow" is as a rule replaced by a firm, homogeneous, pinkish gray tissue. The spleen is greatly enlarged and may weigh from two to ten kilograms.

TREATMENT

The forms of treatment in the leukemias most commonly employed at the present time are benzol, X-ray and radium. Selling⁵ first advocated the use of benzol and it was later used with good results by Koranyi,⁶ Kiralyfi⁷ (7 cases) and Billings⁸ (5 cases). That the use of benzol is not without danger was demonstrated by Klemperer and Hirschfeld⁹ and Graham.¹⁰

Beclere¹¹ has treated more than 100 cases of various types of leukemia with the X-ray since 1904. Under such treatment he finds that he can keep patients in a state of health for from three to six years. Pancoast¹² advocates the use of X-ray in preference to benzol.

Renon, Degrais and Tournemelle¹³ reported marked improvement resulting from the surface application of radium over the enlarged spleen. Similar reports come from many other investigators. Apparently the therapeutic value

of radium is greater than that of either X-ray or benzol.

MYELOGENOUS LEUKEMIA UNDER TREATMENT WITH BONE MARROW

The bone marrow used in this treatment is obtained from the long bones of young beef. The yellow marrow is taken while fresh and agitated in water, equal amounts of both being used. One ounce of the mixture with an equal amount of orange juice is given every three hours.

REPORT OF A CASE*

Baby C., aged 9 months. Entered at St. John's Hospital, February 16, 1928, with marked anemia and fever. Physical examination showed a marked lymphatic hyperplasia and a greatly enlarged spleen. Blood examination at time of admission showed W. B. C. count of 220,000 of which 48 per cent. were myelocytes. At this time one ounce of bone marrow was given every three hours during the day. On February 21 the count had dropped to 40,000; February 22 to 22,500; February 28 to 13,000. Bone marrow treatment was discontinued on March 4 and the following day the W. B. C. count was 15,300, and on March 7, 23,500. Treatment was resumed and on March 8 the count had again dropped to 16,500.

This case has responded in a remarkable manner to the administration of bone marrow. It is hoped that further observations in other cases may corroborate these findings and that some light may be shed on the obscure etiology of myelogenous leukemia. Inasmuch as the pathology of the bone marrow shows a replacement of the yellow marrow by a solid homogeneous tissue it is not improbable that in myelogenous leukemia we are dealing with a deficiency disease. If this is true the oral administration of yellow bone marrow is rational therapy.

305 Lister Building.

* The bone marrow used in this case was obtained through the courtesy of the American Packing Company, St. Louis.

BIBLIOGRAPHY

1. Ramsay, G. W. S. C.: Arch. Dis. of Child. **2**:119, 1927.
2. Hunter, W. K.: Glasgow M. J. **109**:1, 1928.
3. Graham, G. S.: J. M. Research **35**:15, 1916.
4. Davey, J. B., and Whitby, L. E. H.: Lancet **1**:1275, 1927.
5. Selling, L. J.: Bull. Johns Hopkins Hosp. **21**:33, 1910.
6. Koranyi, R.: Berl. klin. Wchnschr. **49**:1357, 1912.
7. Kiralyfi, G.: Wien. klin. Wchnschr. **25**:1311, 1912.
8. Billings, Frank: J. A. M. A. **60**:495, 1913.
9. Klempner, G., and Hirschfeld, H.: Therap. d. Gegenw. **54**:57, 1913.
10. Graham, C. F.: J. A. M. A. **64**:505, 1915.
11. Beclere, A.: Tr. Internat. Cong. Med. London, 1914.
12. Pancoast, H. K.: Am. J. Roentgenol. **4**:611, 1917.
13. Renon, L.; Degrais, and Tournemelle: Bull. et mem. Soc. med. d. hop. de Paris **37**:526, 1914.

ERYSIPELAS*

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AND

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Erysipelas is defined by Tileston¹ as an acute febrile disease of the skin, rarely involving the

mucous membrane, due to the streptococcus and characterized usually by a single area of redness and swelling which is sharply demarcated and extends by continuity.

The first attempt to treat erysipelas with a serum dates back to Fehleisen of Berlin who in 1883 made an immune serum composed of streptococci inactivated by heat, which was administered hypodermically along with the toxins developed in the culture medium. Since Fehleisen's original research numerous investigators have studied erysipelas, including Tunnicliff, Dochez and Birkhaug. The present study of 74 cases of erysipelas, occurring in the Contagious Service of the Kansas City General Hospital, is an effort to appraise the clinical value of a therapeutic serum and no attempt to review the extensive literature will be made, aside from a very brief survey of Birkhaug's work that is essential to a clinical working knowledge of his therapeutic agent.

The various biological preparations produced between the years of 1883 and 1926 as therapeutic agents in erysipelas will not be considered. The symptomatic treatment of this infection has consisted of local applications of heat, cold ithylol and a saturated solution of magnesium sulphate being most frequently used. However, almost every drug in the pharmacopeia has been advocated and employed as a therapeutic measure. The consensus of opinion among clinicians called upon to treat erysipelas was that the infection was self-limited and not influenced by treatment.

That erysipelas is due to an infection with the streptococci is accepted by all clinicians since Fehleisen's observations. The question of a specific strain of streptococci has been answered in the affirmative as well as in the negative and today this question is frequently disputed. Birkhaug's² serum used as a therapeutic agent in the series of cases that forms the basis of this report, is an antitoxin developed from an antigen that Birkhaug considers specific. His observation, that the antigenic reaction of streptococci isolated from cellulitis, erysipelas, scarlet fever and septicemia, fall into different groups, and that the cultures from typical clinical cases of erysipelas fall into similar groups antigenically in 91.2 per cent. of all cases, is enough to establish erysipelas as a specific infection with a definite strain of streptococci.

Impressed by the specific nature of his antigens, cultured from typical cases of ery-

* From the Contagious Service of the Kansas City General Hospital, Kansas City, Missouri.

1. Tileston, Wilder; and Christian, Henry A.: Erysipelas, Oxford Medicine, New York City, Oxford University Press. **4**:889, 1927.

2. Birkhaug, K. E.: Erysipelas, J. A. M. A. **86**:1141 (May 8) 1926.

sipelas, Birkhaug demonstrated that the immune serum had the power to protect from the toxin, and that the immune serum could be inactivated by heat. This fact was demonstrated in the shaved skin of a rabbit in a manner similar to the Shick and Dick cutaneous reactions. Toxins of streptococci nonerysipelatic in character were not influenced by the immune serum from erysipelatic origin. In short, if in the shaved skin of live rabbits a specific toxin of the streptococcus erysipelatis was injected this toxin could be neutralized by an immune serum which was specific. The neutralizing properties were lost when the selected antigen or toxin was not that of erysipelas streptococcus. Cultures from septic sore throat, scarlet fever, and cellulitis were not neutralized by the specific antigen.³

The establishment of the specificity of the antigen and the protective power of the immune serum as demonstrated in the skin⁴ of the rabbit is a biologic accomplishment that marks a definite epoch in the treatment of erysipelas.

Subsequent to the introduction of Birkhaug's antitoxin, Symmers and Lewis⁴ reported 131 cases of erysipelas treated with antitoxin in the wards of Bellevue Hospital. In a survey of their experiences with this therapeutic agent, they reviewed the records of Bellevue Hospital and found 15,277 cases of erysipelas had been admitted with a mortality of 10.1 per cent. Subsequent to this survey the 131 cases were treated by the administration of antitoxin with a mortality of 5.3 per cent., a reduction of approximately fifty per cent. in mortality. The authors also note the period of disability was reduced 53 per cent. They enthusiastically compare the efficiency of the antitoxin with diphtheria antitoxin.

The serum used is produced by immunizing a horse with toxin from the specific streptococcus administered subcutaneously; subsequently living organisms are used. The horse is bled, the blood centrifuged and the resulting serum is then concentrated in a manner similar to the production of diphtheria antitoxin. Potency is determined by the ability of the antitoxin to neutralize the toxin in the skin of the goat. The impression is, that no satisfactory method of standardization has as yet been developed and the commercial product is marked as a therapeutic dose represented by 10 cc. of concentrated serum. Therapeutic injection is given deep into the muscle tissue. Early in our experience we used the intravenous route, but

several severe reactions were encountered and of late we use the antitoxin intramuscularly. In our judgment, in desperate cases intravenous use is indicated as recommended by Symmers and Lewis.⁴

Early cases give best results. Within 24 hours the reaction should be apparent; most frequently 12 to 16 hours subsequent to infection the pulse and temperature show marked reduction and the area of erysipelas should blanch. It is to be recalled that this serum presents all the clinical characteristics of an antitoxin and should be repeated if the erysipelas is active and the pulse and temperature remain high.

To estimate the clinical value of streptococcus immune serum we should recall several established clinical facts relative to the behavior of clinical erysipelas. In childhood erysipelas is a serious infection and carries a much higher mortality than in adults. In adults infection of the skin of the body presents a higher mortality than the facial type. Occasionally the clinician encounters an erysipelas of the lower extremities, frequently associated with a marked varix. These cases develop secondary to a cellulitis and are frequently associated with a septic thrombophlebitis; the skin shows all the cardinal symptoms of erysipelas and the condition receives the clinical diagnosis of erysipelas. Such a case does not respond to Birkhaug's serum and very probably is an infection with some streptococci other than the streptococcus erysipelatis. A study of the records of the Kansas City General Hospital shows that during the year 1926, prior to December 17, at which date the use of erysipelas antitoxin was instituted, 33 cases of erysipelas were admitted to the hospital with five deaths, a mortality of 15.15 per cent. Since December 17, 1926, to date 41 cases have been admitted with a diagnosis of erysipelas that have been treated by the administration of erysipelas antitoxin with three deaths, a mortality of 7.3 per cent. While the results obtained in a series of cases so small in number should be accepted with caution, the fact remains that the use of antitoxin reduced the mortality over fifty per cent. A review of the records of the three cases that died reveals some interesting data:

Case 1, male, age 67, entered the hospital March 22, 1927, on the Medical Service, suffering from marked arterial disease with extensive renal and cardiac involvement. April 3, twelve days after entering the hospital, he developed erysipelas from which he died April 10. The erysipelas was not influenced by antitoxin.

Case 2, male, age 49, entered the hospital June 8, 1927, died June 9, 1927. This was a body case secondary to a cellulitis of the lower extremities with a complication of varicose veins. Antitoxin was with-

3. Birkhaug, K. E.: Studies on the Biology of the Streptococcus Erysipelatis, *Bull. Johns Hopkins Hosp.* 37:85 (Aug.) 1925; 37:307 (Nov.) 1925.

4. Symmers, D., and Lewis, K. M.: Antitoxin Treatment of Erysipelas; Observations in 131 Patients at Bellevue Hospital, *J. A. M. A.* 89:880-882 (Sept. 10) 1927.

out influence and we are convinced this case was an infection with some streptococcus other than streptococcus erysipelatis.

Case 3, male, entered the hospital December 3, 1927, and died December 26, 1927. He entered with a temperature of 106, being brought in by the police with suicidal maniacal tendencies. The case was not influenced by antitoxin. At the postmortem by Dr. Robert Koritschoner the findings were reported to be those of an overwhelming toxemia. Cultures from the heart blood were sterile.

The clinical impressions gained from the use of Birkhaug's antitoxin in the treatment of erysipelas may be briefly summarized as follows: The serum is antitoxic in its action. Twelve to fourteen hours subsequent to its administration the pulse and temperature drop and the erysipelas begins to fade. No immunity is conveyed. We have observed several cases that responded well to antitoxin that relapsed in a comparatively short period of time. In early cases the best results are obtained and in several instances we have been able to limit the activity of the disease to three days. In severe cases, where treatment is instituted several days subsequent to the onset, several doses of antitoxin may be required, administered preferably at 24 hour intervals. We have no observations to make upon the complications. The secondary infection that develops on the face is impetiginous in appearance and staphylococci may be found in the lesions. This secondary infection occasionally may assume considerable proportions and be rebellious to treatment. In the aged some edema may remain in the loose cellular tissue under the eyes for a considerable time. In over 200 cases of erysipelas we have never encountered cavernous sinus thrombosis. Endocarditis and pulmonary invasion are frequently followed by death. In this series of cases a woman with endocarditis, disseminated consolidation in the lungs, and a septic thrombophlebitis of the lower extremities, associated with numerous petechial hemorrhages over the entire body and a positive blood culture for a hemolytic streptococci, recovered, much to our surprise.

CONCLUSION

In conclusion, we believe that erysipelas, heretofore considered a self-limited infection, is markedly amenable to treatment by antitoxin.

Argyle Building.

TUBERCULAR IMMUNITY

By Johannes Heimbeck

This article endeavors to prove, through tests made on the nurses at the Municipal Hospital at Oslo, Norway, the efficiency of inoculation with Professor Calmette's avirulent tubercle bacilli in securing immunity from tuberculosis.

As soon as the nurses enrolled they were given the Pirquet cutaneous tuberculin reaction. Over a

four-year period the results in 420 nurses were approximately 50 per cent. positive and 50 per cent. negative.

Similar tests on Oslo school children, however, showed that at the age of nine 85 per cent. had a positive test. At the age of twenty about 50 per cent. were positive, showing that the Pirquet reaction disappears largely after childhood; the infection had been killed by the organism. Practically the same ratio held good in 79 medical students and on 222 military recruits.

However, it was shown that among the nurses who caught tuberculosis at the hospital the great majority were those whose Pirquet had been negative. This was because they were virginal for a new infection when they entered the hospital. The ones whose Pirquet was positive had a resistance against the disease and did not catch it.

All this proves that the tuberculosis infection takes its general course at once either to disease covering the organisms, or to immunity, expressed by Pirquet's reaction, to be conquered by the organisms.

Bearing the foregoing statements in mind, the results of inoculating nurses with Calmette's avirulent tubercle bacilli show that out of eleven Pirquet negative nurses inoculated none got the disease. On the contrary of twelve Pirquet negative nurses who refused to be inoculated, four up to this time have shown a tuberculous disease.

This proves that the great majority of cases of tuberculosis come from Pirquet negatives. Also, that by inoculation with Professor Calmette's avirulent tubercle bacilli the Pirquet is made positive and the person made largely immune to tuberculosis.—*International Clinics*, December, 1927.

NOTES ON NORWEGIAN OPHTHALMOLOGY, ESPECIALLY ON THE DIAGNOSIS AND TREATMENT OF GLAUCOMA PATIENTS

By Sigurd Hagen

Professor Hagen has found the intraocular pressure curve of the greatest practical importance in diagnosis and treatment of glaucoma.

There are daily variations in pressure. The maximal pressure occurs in the morning and the minimum in the evening. In the "inverse type" the pressure is highest in the evening. The curves for both eyes follow one another in an almost parallel course.

In the early stages of glaucoma the whole pressure curve often is below the limit of the normal tension. Yet the typical daily variations prove the presence of glaucoma.

The pressure in the normal eye may also vary, but very slightly.

In treatment of glaucoma the pressure curve is also of importance. It is of great practical importance to be able to demonstrate the effect of myotics on the pressure curve. Failure to obtain a completely satisfactory effect from myotics is an indication for operation or at any rate for frequent and careful observation of the patient so as not to risk postponing the operation too long.

As to the method of operation, Holth's extralimbal tangential punch forceps sclerectomy is preferred in chronic glaucoma. By this method the risk of late infection is reduced. A smooth scar with normal tension is quite common after this operation.

The routine taking of the pressure curve is described and a brief outline of the technic of Holth's operation included.—*International Clinics*, December, 1927.

THE JOURNAL

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JUNE, 1928

EDITORIALS

THE COLUMBIA MEETING

All predictions concerning the 71st Annual Meeting of the Association held at Columbia, May 14-18, were fulfilled. In fact, expectations were more than realized especially in regard to the interest shown in the scientific work and the clinic following the regular session. This clinic on cancer and diabetes with demonstrations of tests for communicable diseases far exceeded the highest expectations of the committees in charge of the work. Our guests, Drs. Bloodgood, Cullen and Joslin, were thoroughly at home and really seemed to enjoy the opportunity of discussing their subjects with the large number of physicians and others who attended the clinics. Dr. Neff, of Kansas City, presented in his always interesting and practical manner the important points in regard to communicable diseases especially those of childhood.

The night meetings which were open to the public were well attended and the addresses conveyed important messages to the public to cooperate with the medical profession in the spread of knowledge for the prevention of disease. Drs. Smithies and Pottenger were particularly effective in the choice of their subjects and the forceful manner in which they impressed their messages upon the audience.

The registration was 476 but we feel very sure that there were more than 500 at the meeting because it was so easy to arrive in Columbia in the morning, attend the sessions of that day, circle about among friends and then drive out that night without giving a thought to the registration desk. At any rate the meeting hall was full at every session. At no time did the attendance fall below 100 and it reached 300 during most of the hours of the meeting.

President Nifong's address was an earnest plea for the reestablishment of four years of medical teaching at the state university and Dr. C. H. Wallace, of St. Joseph, a member of the legislature, inspired the audience by his strong and forceful argument for the Association to inaugurate a campaign for the erection of a state general hospital and teaching four years of medicine at Columbia. The House of Delegates responded to these appeals by pass-

ing a strong resolution directing the Committee on Public Policy to prepare a measure for the next session of the legislature incorporating these features in a bill.

Another resolution was adopted indorsing a plan to establish a State Department of Nervous and Mental Diseases for the development of trained psychiatrists for the state hospitals. In this connection medical expert testimony as practiced at present in criminal cases where insanity was a plea was condemned and it was recommended that the courts be empowered to designate examiners in such cases who may be drawn from the Department of Nervous and Mental Diseases.

The election of Dr. T. W. Cotton, Van Buren, for president-elect confers the honor upon one who has been intimately identified with the work of the Association ever since the reorganization in 1903 and for a number of years before that time. He has never sought office but he has never declined to serve when a duty or an obligation for the welfare of the Association was laid upon him. Living in a part of the state not thickly populated he has demonstrated the importance of the country doctor by his pioneer work in spreading knowledge among his people on sanitation and preventive medicine. Through his efforts his county became practically malaria free long before the southeastern section of the state as a whole attacked the malaria problem by drainage.

The following Councilors were elected: 13th District, Dr. O. S. Gilliland, Kansas City; 19th District, Dr. J. S. Summers, Jefferson City; 23rd District, Dr. J. B. Luten, Caruthersville; 24th District, Dr. A. R. Rowe, Poplar Bluff. The other Councilors in the odd numbered districts, all of whose terms expired this year, were reelected.

The terms of three delegates to the American Medical Association expired and the following were elected: Dr. E. H. Skinner, Kansas City, Delegate; Dr. E. H. Trowbridge, Kansas City, Alternate. Dr. W. J. Ferguson, Sedalia, Delegate; Dr. S. L. Baysinger, Rolla, Alternate. Dr. A. R. McComas, Sturgeon, Delegate; Dr. H. L. Kerr, Crane, Alternate.

In selecting the next place of meeting five cities extended invitations, namely, Excelsior Springs, Springfield, Joplin, Jefferson City and Sedalia. On the first ballot no city won a majority but Springfield was within a few votes of the necessary number and on motion the House of Delegates unanimously voted to meet in Springfield in 1929.

To the General Committee on Arrangements and particularly to the Chairman of the Local Committee on Arrangements, Dr. Dudley A.

Robnett and his subcommittees, the members owe the highest praise for the splendid arrangements looking to the care and comfort of the members. Dr. Robnett seemed to be everywhere at once especially when something was needed to facilitate the smooth running of the meeting.

A face familiar to practically every member who has attended any session during the past 25 years was absent at this meeting, the only session this officer, Dr. A. R. McComas, Chairman of the Council, has missed except during the war. It is now generally known that he was seized with a very serious illness about April 20 and has been confined to the Boone County Hospital since that time. He did preside at one short session of the Council and was the honor guest at a buffet luncheon sponsored by the trustees of the Boone County Hospital. These excursions taxed his strength a little too severely so that he was unable to attend any other sessions. Many members visited with him at the hospital and he was a very happy man to know that the session was progressing with such great satisfaction to those who were attending.

Another faithful member and former president whose absence was noted with regret was Dr. W. J. Ferguson, Sedalia, who has been ill since about April 1 but is improving.

Dr. Guy L. Noyes, of Columbia, a member of the Committee on Postgraduate Course, was compelled to absent himself from the session on account of illness.

The House of Delegates sent messages of sympathy in their illness and regret for their absence to these three members.

POST IMPRESSIONS OF THE COLUMBIA MEETING

Impressions of a medical meeting are much like impressions of any other meeting. They depend to a large extent upon the reaction of the observer to those things passing around and about him which reaction is contingent upon the mood of the observer, his disposition, his interest in the meeting, his reactive powers and those other factors which tend to color the personality and the expression of the interested viewer of the passing show. Whether his vision be jaundiced or rose-colored depends often upon his digestion and the state of his psyche.

In spite of the foregoing, and neither affirming nor denying any of the above limitations, necessities and qualifications of the successful observer, we would like to say that our impressions of the Seventy-First Annual Meeting of the Missouri State Medical Association recently held at Columbia, are that it was one

of the most successful, if not the most successful of all the meetings of this organization.

As human beings we are prone to forget the events of the past, sometimes a fact of decided advantage, but with the demise of memory of these events we often magnify the present events and feel that today's happenings are far more wonderful than anything that happened yesterday. We speak for youth and burgeoning years; age reverses the process and lives in the past. We are young, we members of the Missouri State Medical Association, and we think that this recent meeting had all those necessary facts included that made for success and an advance over the preceding meetings.

There were many things that we liked at this meeting; some things minor, of course, we would criticize, but that in a most kindly and constructive way. First of all we were enthused about the attendance at the meeting. Our feeling is that meetings are designed primarily for the crowd, the great mass that serves as a backbone of any organization, and we like to see a crowd on hand. This we found at Columbia, for at every session there were present over two hundred with an extremely low percentage of slumberers; indeed somnolence was conspicuous by its absence, which speaks very highly for the quality of the papers and the interest of those observers who listened eagerly to the various contributions.

The total registration for the meeting was close to five hundred, which indicates very clearly the general interest and attitude of the members throughout the state. However, the meeting was so splendid that those who remained at home did themselves a distinct injustice. This sounds a bit exaggerated, but we know that many others will bear us out in it.

Before progressing into this mild, wandering observation, we feel it necessary to say a word about the way the sessions were conducted. Belonging to the submental group that finds it very difficult to concentrate over three or four hours at a time, we were well pleased with the maintenance of the original time schedule. Only occasionally did the papers exceed the allotted time, and then the interest of the audience was such that there was no effort made to stop them. Much credit is due to the retiring President, Dr. Frank G. Nifong, of Columbia, who we believe after the evidence he gave us, is an expert at conducting these meetings. He knows well the psychology of the crowd.

No less industrious in this direction was Dr. Frank I. Ridge, of Kansas City, the president for the coming year. He should make an excellent president, with youth in his favor, native born, bred and educated with a thorough knowledge of the medical affairs of the state, a

tremendous enthusiasm directed entirely along constructive lines, and a keen desire to protect medical interests in Missouri. Endowed with a famous sense of humor, wit and fellowship, his regime will unquestionably stand out pre-eminently and we think we will no doubt succeed in making the country doctor thoroughly appreciated by the community. This likewise is only in passing. The ambulant vagrant still wanders, and so to come back to the meeting.

There may be some question in the minds of a few as to the advisability of importing foreign talent to "educate us in our state meetings." Once and for all we would like to go down on record as being in complete accord with this idea, if the imported talent is of such high merit as those at this meeting, and if all importations enlighten us as completely, as graciously, as enthusiastically, and as simply as did these guests. This in no way reflects on the papers presented by state talent, but we must say that we were tremendously impressed, delighted and "educated" by these men who came to us from foreign parts.

Personally, we feel that the diagnosis of tuberculosis after the discussion by Dr. F. M. Pottenger, of Monrovia, is going to be a very much easier matter and visceral neurology becomes slightly more easily comprehended. Dr. Frank Smithies, of Chicago, straightened out many of the vagaries and kinks of the abnormal intestinal tract and placed the gastro-intestinal X-ray in its proper position. Dr. Thomas S. Cullen, of Baltimore, explained in meticulous detail the subject of uterine hemorrhage, particularly apt in this day of cancer prevention. He was followed by Dr. J. C. Bloodgood, also of Baltimore, whose talk on cancer was excellent. As an authority in this field he is without a peer and his words were timely. Dr. Elliott P. Joslin, of Boston, discussed diabetic doctors and claimed much interest and attention, suggesting many important points in the handling of diabetic patients.

What interested us particularly in the session? To select one paper or group of papers out of a large number would be to indicate rank and preference where none probably exists. Before we express an opinion on this matter, we would like to compliment Dr. Joseph Love, of Springfield, one of the charter members of the "Ridge Runners Association," which we understand initiated several "outsiders" at Columbia, who has a reputation of being a splendid medical economist, and whose "report" stood out as a fine example of how even an economist can make us laugh at medical economics. We have already suggested that Dr. Love take up this same subject when

he entertains us at Springfield, where the Seventy-Second Annual Meeting will be held in 1929. Which by the way brings out the fact that five cities applied for the privilege of entertaining the state meeting in 1929,—again an example of the renewed interest in things medical.

We haven't said yet what papers we preferred. It seems unnecessary to continue the suspense any longer, but we think, in our sometimes misguided and misinformed way, that the symposium on backache was the most valuable, at least to us. This selection is not due to the persistence of an old backache in ourselves, which was relieved somewhat by significant points in some of the papers, nor is it due to a kindly sympathy for the patient who toils along, bowed and low with "misery in the back"; it is, we think, due chiefly to the fact that we had so much difficulty in diagnosing these cases, that even a dim light thrown on the subject offers great possibilities. This dim light is not of necessity in the tip of a cystoscope! It may have been Dr. Logan Clendenen's brave and masterly discussion of these excellent essays which attracted us to the symposium. His wit and humor unquestionably added to the general appreciation of the ease or dis-ease of making a diagnosis in low back pain.

Other symposia were very interesting and again it is our humble opinion that the symposium is the ideal way to present a subject most completely. We would criticize now, kindly and constructively as mentioned, the absence of discussion of many of the papers. There seems to be a hesitancy on the part of a great many men to express their views, a fault that unquestionably prevents the satisfactory exposition of the author's subject. This again in passing.

We might continue our rambling discussion indefinitely, but time and space and our Editor prohibit this. Speaking of the Editor, who is also our State Secretary (he won't be aware of this being published so we will just insert it while we have the chance) we think that he deserves abundant and overwhelming praise for the excellent way the entire meeting was handled. We cannot overlook this opportunity to express our thanks to him for his splendid work in this and other Annual Meetings.

Last, but not least, as we turn away from Columbia, our minds recall a most pleasant and profitable time, and we think of the whole-hearted manner in which our colleagues there received us and extended the hand of friendship. We offer them our thanks for this reception, wish them luck in the wonderful work they are doing, and bid them a fond "adieu."

NEWS NOTES

About 150 physicians attended the American Life convention last month at the Chase Hotel in St. Louis.

The next meeting of the State Board of Health for the examination of applicants to practice medicine will be held in St. Louis, July 17, 18, 19, 1928.

Dr. J. C. Lyter, St. Louis, will deliver the Annual Address before the Waterloo Medical Society, at Waterloo, Iowa, Wednesday, June 20. Dr. Lyter's subject will be "The Medical Aspects of Chronic Thyrotoxicosis."

A number of medical books and an impressive list of French, German and English journals of ophthalmology and otolaryngology are offered for sale by Beloit College. Titles may be obtained by writing to Iva M. Butlin, Librarian, Beloit, Wis.

The twenty-fifth anniversary of the 1903 class of Marion-Sims-Beaumont Medical College, the last to graduate before it became St. Louis University Medical School, was observed with a reunion and dinner at the University Club in St. Louis last month.

Many Missouri organizations observed national Child Health Day, May 1. The May number of the Woman's Home Companion devoted an article to the occasion, citing that surveys in 86 cities indicated that child health protection was only about 50 per cent. as thorough as it should be.

A series of annual awards as incentive for achievement by the blind has been established by the Harmon Foundation of New York. Awards for those under 21 are offered for improvement of appearance, poise, mental attitude, manual skill, participation in home activities and social adjustment. Six fields are considered in the awards for adults, including literary and economic production, especially of "outstanding results in competition with the seeing," short stories, essays and research, social, scientific and historical. This is a noteworthy attack on the knottiest problem civilization has to face in relation to this element of society—providing a stimulus to initiative and self-reliance. The foundation is to be congratulated and the world will watch the development of its experiment with interest.

Dr. B. D. Wyllie, director of health education in the St. Louis public schools, spoke at a meeting of the child health auxiliary of the Tuberculosis and Health Society last month.

Dr. W. T. (Pat) Coughlin, St. Louis, was a guest of the St. Clair County Medical Society on April 4, 1928, and gave an address and clinical demonstration on "When Goiter Is a Surgical Case."

Dr. P. T. Bohan, Kansas City, was the honor guest at a dinner given by Dr. J. C. Lyter, St. Louis, at the Missouri Athletic Club, on the evening of April 27. Dr. Bohan delivered an address on "Medical Economics" to forty guests.

A moving picture to drive home the importance of early diagnosis of tuberculosis has been shown in 200 St. Louis factories since January 1, according to Dr. A. J. McLaughlin, medical director of the St. Louis Tuberculosis and Health Society.

Crippled, underprivileged and delinquent children were the topics for a divisional meeting of the sixth annual Fourteenth District Rotary Conference, May 3 and 4, at Kirksville. Dr. Frederick A. Jostes, of the State Hospital for Crippled Children at Columbia, spoke. Mr. Percy Redmund, of the Southwestern Bell Telephone Company, presided and Mr. Elmer C. Henderson, of Fulton, was sponsor.

Dr. Christopher G. Schott, of Louisville, was killed April 16 by a male attendant in his private sanitarium. The authorities were informed that Dr. Schott had been drinking and, in consequence, ill-tempered for some time, and that the attendant had resented his use of foul language and rough treatment of a woman patient. A 17 year old girl was found dead in his office in 1919, but the grand jury refused to indict him when he presented an alibi.

Congo red as a therapeutic agent against several animal and vegetable poisons was reported on by Professors Hanzlik and Butt, of Leland Stanford, at the recent session of the Federation of American Societies for Experimental Biology. The pigment was given by intramuscular injection to guinea pigs, rabbits and pigeons, with cures reported running as high as eight out of ten in botulism and diphtheria. Favorable reaction was noted also against cobra venom and strychnin. Professor Hanzlik stated that other colloidal dyes had similar effects, and theorized that they protected body cells by union with the toxins.

Dr. G. Leonard Harrington, Kansas City, spoke at a recent meeting of the Missouri Society for Mental Hygiene in St. Louis.

Dr. William A. Pusey, Chicago, former president of the American Medical Association, who spoke recently at the Chicago Forum, was quoted in the lay press as saying that the family physician should be left free to give information on birth control.

National Jewish Hospital Week was observed recently on behalf of the National Jewish Hospital at Denver, Colorado, the first national institution in this country for free care of the tuberculous. Although founded and principally supported by Jews, many Gentiles have been among the 5500 patients treated there since it opened in 1899.

The proposition in the United States Senate introduced at the request of the American Medical Association to permit physicians to deduct from their income tax traveling expenses incurred while attending postgraduate courses and medical conventions was overwhelmingly adopted in spite of the adverse report of the Senate Committee. The amendment was referred to the House of Representatives where it is pending as we go to press.

Edmund Vincent Cowdry, Ph.D., a member of the Rockefeller Institute research staff, is to come to Washington University School of Medicine July 1 as head of a new department of cytology. He has taught at the University of Chicago and Johns Hopkins University, Baltimore, was professor of anatomy in Pekin Union College for several years, has made important research contributions on several lines, is editor of three professional journals and has led scientific expeditions in Alaska, Russia, Japan, interior China and South Africa.

The tenth annual meeting of the Western Association of Physical Therapy was held in Kansas City, April 20 and 21, under the presidency of Dr. J. E. G. Waddington, of Detroit. Twenty-five papers were presented. The following were elected for the coming year: President, Dr. E. N. Lime, Indianapolis; vice presidents, Drs. W. P. Grimes, Kansas City, and A. F. Tyler, Omaha; secretary, Dr. Charles Wood Fassett, Kansas City; treasurer, Dr. F. L. Laffoon, Kansas City; registrar, Dr. J. T. Stamey, St. Joseph; trustees, Drs. J. E. G. Waddington, Detroit, and F. H. Morse, Boston.

A \$50,000 addition to the Odd Fellow's state hospital, at Liberty, was dedicated by officers of the grand lodge, assisted by children in the home at Liberty, in the annual home-coming, May 13.

Diet as it affects the teeth was discussed at a recent meeting of the Jackson County Health Society, with addresses by Dr. Frank C. Neff, Kansas City; Mr. Jason Rogers, Kansas City, general manager of the *Journal-Post*, and Dr. Willis A. Coston, Kansas City, who presented the dentists' point of view.

Dr. George Ives, of St. Louis, is one of the proprietors of a summer camp for selected boys at Mad Creek Ranch, 192 miles northwest of Denver, Colorado. All applicants must pass a physical examination by their family physician. An extensive program of athletics, woodcraft and other outdoor training is offered from June 30 to August 24.

Five universities and a research institution have outlined a three year program for the study of the cause and treatment of infantile paralysis, a course made possible by \$250,000 donated by Jeremiah Milbank, New York philanthropist. The announcement was made by William H. Park, Chairman of the International Committee for the Study of Infantile Paralysis. Each laboratory will conduct its own investigations along its own plans, but the results will be correlated by the committee. The study will be conducted in Chicago, Columbia, Harvard and New York universities, the Lister Institute in London and the University of Brussels.

Dr. Joseph Grindon, head of the dermatology department of St. Louis University, was honored by election to the presidency of the American Dermatological Association at its recent meeting in Washington, D. C. The distinction was the greater in that Dr. Grindon, one of the oldest members of the association, was unable to attend the meeting and was elected in his absence. Dr. Grindon has practiced in St. Louis for 50 years. He was president of the St. Louis Medical Society in 1909, is a member of several American societies and an honorary member of the Société Française de Dermatologie.

Another member of St. Louis University medical faculty, Dr. Ralph A. Kinsella, was elected to membership in the American College of Physicians. Dr. Kinsella, director of the department of internal medicine in the university, read a paper at the recent session of the organization in Washington.

An attempt to increase the Harrison Narcotic Tax from \$1.00 to \$3.00 in the Senate was overwhelmingly rejected May 15. Senator Copeland, of New York, a physician, spoke against the amendment and told the Senate that every doctor in the country was aroused over this class legislation.

Dr. W. W. Johnston, Jr., Farmington, was elected president of the Missouri Public Health Association at its fourth annual meeting at Jefferson City, May 5. Dr. Johnston is health officer for St. Francois County. Dr. John W. Williams, Jr., Springfield, health officer for Greene County, was made vice president of the Association.

An appropriation of \$100,000 has been made by the St. Louis County Court for a 28½ acre site in Clayton for the \$1,000,000 St. Louis County General Hospital, for which a bond issue recently was voted. The land is on the west side of North and South road, between the Rock Island and Terminal railroads and the Clayton car tracks. The property is partly wooded and suitable for building up a hospital park. It is convenient for citizens in the most heavily populated sections of the county and to members of the staffs of St. Louis and Washington University medical schools. Formal purchase of the land must await repeal of an ordinance recently adopted by the Clayton City Council to prohibit erection of a hospital within the city limits.

The proposition of the St. Louis Medical Society and the Trudeau Club for a \$2,000,000 bond issue, to cope with an acute shortage of city facilities for the care of the tuberculous, is meeting with an intelligent appreciation by the city officials. City health officials and department heads discussed it quite favorably at a recent conference with the medical society committee carrying on the good work. Director Salisbury, of the Municipal Department of Public Welfare, remarked that not only were additional funds required for the city's responsibilities to the tuberculous, but that probably \$10,000,000 was necessary to place the city provisions for the insane, tuberculous and convalescent on an adequate footing. It appeared not unlikely that the \$2,000,000 item could be placed before the city voters in the November elections, a goal toward which all physicians will give the medical society, the Trudeau Club, and the cooperating city officials their unremitting support. In the emergency that exists meantime, the Tuberculosis and Health Society hired eight nurses to be at the disposal of the Tuberculosis Controller.

Dr. John R. Caulk, St. Louis, was the guest of the Oklahoma State Medical Association, at Tulsa, May 18, and delivered an address on "Author's Caution Punch for Prostatic Obstruction." On May 24 Dr. Caulk read a paper before the West Virginia State Medical Association, Fairmont, West Virginia, on the same subject.

The Administrative Board of St. Louis University Medical School, headed by the Dean, the Rev. Alphonse M. Schwitalla, S.J., was recently announced as follows: Associate Dean, Dr. Don R. Joseph; Professor of Pharmacology, Dr. John Auer; Professor of Surgery, Dr. William T. Coughlin; Professor of Internal Medicine, Dr. Ralph A. Kinsella; Dean of the Dental School, Dr. James P. Harper. The realignment of the board was made necessary by the death last summer of its noted Dean, Dr. H. W. Loeb.

The following articles have been accepted for new and nonofficial remedies:

The Cheney Chemical Co.

Ethylene—Cheney

E. Fougera & Co.

Lipiodol—Lafay

Lipiodol Radiologique Descendant

Lipiodol Radiologique Ascendant

Mead Johnson & Co.

Mead's Powdered Boilable Protein Milk

Swan-Myers Co.

Ephedrine—Swan-Myers

Ephedrine Inhalant—Swan-Myers

Winthrop Chemical Co., Inc.

Phanodorn Tablets, 3 grains

Dr. William B. Winn, St. Louis, who retired from active practice some years ago, killed himself by taking poison April 17, at his home, finding that high blood pressure was curtailing the diversions of his age. He was a member of the Aristo-cats Club and the Perpetual Youth Club, the latter a group of billiardists 70 years old or more.

Dr. Winn was born in Memphis, Tenn., 71 years ago and educated in Washington and Lee University and Columbia University College of Physicians and Surgeons, New York City. He was in the New York City Health Department for a time and returned to Memphis as a member of the National Board of Health in a yellow fever epidemic. He enlisted at the outbreak of the Spanish-American War, became a Major and, after service in Cuba and the Philippines, was appointed head of the medical supply department in the Philippines. About 20 years ago he removed to St. Louis, served as assistant to Health Commissioner Bond for a short time, and retired.

OBITUARY

WILLIAM H. CARRUTHERS, M.D.

Dr. William H. Carruthers, St. Louis, a graduate of the Homeopathic Medical College of Missouri, St. Louis, 1900, died Sunday, April 22, 1928. Dr. Carruthers was a member of the St. Louis Medical Society. He is survived by his widow, three sons and two daughters, two brothers and one sister.

MEYER J. LIPPE, M.D.

Dr. Meyer J. Lippe, St. Louis, a graduate of Missouri Medical College (now Washington University School of Medicine), 1895, died at his home March 22, 1928, aged 51 years. He had suffered from a gallbladder ailment but did not become seriously ill until a week before his death.

Dr. Lippe was a member of the St. Louis Medical Society since 1906 and a Fellow of the American Medical Association. He is survived by one brother and one sister.

Books for Leisure Moments

A book as interesting as any novel ever written has recently been presented to the public by Helen Heckman under the caption, "My Life Transformed" (The Macmillan Co., New York, \$2.50). So vividly is the story of her life, her thoughts and her emotions unfolded in this story, that it has an appeal to the heart which lingers on throughout the book. It is the story of accomplishments in the making rather than one depicting what has been done with them. It is a story of a life remade and a soul reborn. This metamorphosis seems little short of a miracle when we think of Miss Heckman being at the age of twelve, deaf, dumb and mentally undeveloped. Now she occupies a place of distinction in the world as an able pianist with a pleasant speaking and singing voice, and a successful professional dancer, in spite of the fact that she cannot hear the music to which she dances.

This marvelous change is the result of the devotion of a loving, unselfish stepmother. No mother could manifest a greater love for her own child than is portrayed in this book. Mrs. Heckman is indeed a wonderful woman to have the knowledge and understanding at her command to continue in the task which she voluntarily assumed. The majority no doubt would have grown discouraged and given up instead of persisting in the long and patient struggle. In this story we meet a dauntless

courage and unfailing persistence in the lives of both Miss Heckman and her stepmother.

This record of a life transformed from darkness into light, from years devoid of joy and hope into years of happiness unlimited is one of real value to those who are interested in the care of the deaf and dumb. While no institution could hope to bring about such results as portrayed in the book under review, through lack of time and possibly lack of help, still much will be found in the volume to aid and cheer those who are caring for the boys and girls so afflicted.

One is indeed surprised to learn of the mental torture boys and girls undergo who are deaf and dumb, from different things they cannot understand, which to normal children who can hear and talk are merely common place, everyday things of life. If we could but realize the pent-up emotions which they perhaps often suffer we surely would be more considerate. A cloud of ignorance or fear is so likely to cast its shadow across the pathway of those who cannot hear. We could never realize how terrible it must be to be shut off from the hearing world. Great indeed must be the change in Miss Heckman which has enabled her to progress to the state where deafness is unrecognizable at casual contact.

It is not surprising that Miss Heckman writes of the advent of her stepmother into the family as the "dawn of a new life." The cards which had been given them by the institution which the child was then attending, by which parents might learn the finger language and thus have a means of conversing with their children, were laid aside by Mrs. Heckman. She began making plans of her own to lessen the afflictions of the child. She was a woman of deep sympathy and broad vision, and could not bring herself to think of the long years ahead of this child if the latter were allowed to grow up in the institution to which she had been committed. Slow and tedious was the progress of the next few years, but determination finally won.

It is indeed very interesting to follow the story of the life of this child from the age of twelve until she developed into an accomplished young lady. It is all the more interesting by the fact that the story is not fiction but reality—the story of a life as it was lived and of an experience that was real. The term evolution may be rightly applied here to the life of this child of twelve. At this age, a backward child and one burdened with a great affliction, we follow her experiences down through the years to the time of the fulfilment of all the promises her wonderful mother must have visioned—a healthy, charming, accomplished young lady, happy in the mere thought of liv-

ing. Success has indeed crowned their efforts in a remarkable manner; and the reading of the book should serve as a tonic to all who seek the inspiration of its example.

A most valuable book, especially to those afflicted with heart disease, is the little volume, "Heart Disease" (Lea & Febiger, Phila. \$1.50), written by Dr. Harold E. B. Pardee, Assistant Professor of Clinical Medicine, Cornell University Medical School. There is great need for this volume, and Dr. Pardee, being an authority on the subject, is well qualified to supply the need. It is difficult for the ordinary layman to understand the subject of heart disease, for the facts concerning this subject are not usually clothed in terms which those without medical training are able to understand. It is the expressed hope of Dr. Pardee that his book will enable any one who reads it to ascertain those facts about heart disease which ordinary people would like to know. Another important need which the book fulfills is for the patient to understand his condition, so that he may be able to assist in his own cure by knowing how to cooperate with his physician.

Heart disease like tuberculosis is an important health problem. Many persons ask the question: "What is this heart disease about which we read and hear so much?" To answer this question, Dr. Pardee has discussed such subjects as, "How the Heart Is Made and How It Functions"; "The Causes of Heart Disease and How They Affect the Heart"; "Medicines for the Heart" and "The Treatment of Causes." In one chapter he emphasizes the importance of proper exercise and of proper rest.

The two main causes of heart disease, he says, are rheumatism and hardening of the arteries. Rheumatic heart disease often starts with an acute attack. The arterial form begins gradually and often goes unnoticed until an acute attack causes the patient to be very ill. In order for a physician to treat heart trouble successfully there must be complete cooperation. The primary purpose of this book, says the author, is to help the patient to understand his condition so that he may be able to follow his physician's advice with intelligence. The patient must know the disease almost as well as the physician; at least he must know what is harmful and detrimental to his recovery.

Climate is often an important factor to consider. Rheumatism and rheumatic heart disease are found to be less frequent in the southern and central parts of the United States than in the northern. As a rule there is more freedom from catarrhal conditions of the nose and

throat, and from bronchitis and pneumonia in places where the climate is warm and dry. These sections are therefore most desirable for any one with rheumatic heart disease. Excessive hot weather is to be avoided, however; it is in fact less desirable than real cold weather.

The book is small in bulk, containing only one hundred and twenty pages, but it is a valuable contribution to the mass of literature which is being placed on the market for the purpose of informing the general public regarding the care, treatment and needs of the human system.

CORRESPONDENCE

THE NICHOLS SANATORIUM

May 8, 1928

American Medical Association
532 North Dearborn Street
Chicago, Ill.

Dear Sirs:

My wife, Mrs. ——— was induced to go to the "Dr. Nichols Sanatorium for Cancer," Savannah, Missouri, for treatment, against my wishes and over my objections. That was in September, 1927, and now she is dying of arsenic poison used in an alleged "Proper Treatment and Cure" for cancer.

I am a Presbyterian Minister and at the time Mrs. ——— was influenced to go to the Nichols Sanatorium for cancer, I was pastor of the ——— Church, an undenominational organization composed of several denominations. My salary was small but I supplied Mrs. ——— with every dollar I had and all I could borrow to let her go to the Nichols Cancer Sanatorium.

I was present at the Nichols Sanatorium the day Mrs. ——— was examined. A woman nurse who is now superintendent of the institution since Dr. Nichols died, examined my wife. The examination was concluded in less than ten minutes. The nurse felt of Mrs. ——— breast (there was no sore), also felt under her arm, and said: "The cancer extends under arm—serious case." Mrs. ——— was assigned a room and the next morning was put under the influence of drugs while the arsenic poison was applied to burn out the supposed cancer. Our local physician, Dr. Williams, of Genoa, had previously examined Mrs. ———, and said the lump on her breast might be cancer and it might be a tumor, or something else, and wanted to make a specimen test. But Mrs. ——— had previously been in correspondence with the people at Nichols Sanatorium for Cancer and they said: "Do not permit a doctor to make specimen test."

While I am a Presbyterian minister, previous to 1927, when Mrs. ——— became afflicted with lump on breast, I was Professor of Biology at ——— College, ——— California. I have studied at the University of Nebraska, Harvard and the University of California. In my judgment, the only sure way to find out if Mrs. ——— really had cancer was by a specimen test and X-ray photos. No effort was made at Dr. Nichols Sanatorium for Cancer to find out definitely if Mrs. ——— had cancer before administering treatment of arsenic poison in poultice form.

For nearly ten days Mrs. ——— was constantly under the influence of drugs. Then hurried out

of the sanatorium three weeks from day she entered, to make room for other dupes and victims of this alleged "cancer cure."

Since Mrs. ——— left Nichols Sanatorium she has had a nurse and doctors—several nurses and several doctors. The arsenic poison has so filled her system and destroyed her vitality that she is now dying. The attending physicians in ——— are Drs. ——— and ———.

I have spent every dollar I have in the world—all I can borrow—and now Mrs. ——— is dying from arsenic poisoning administered at the Nichols Sanatorium under the fake advertisement, "Cancer, Its Proper Treatment and Cure." If I had money I would spend my life fighting such quack institutions as the Dr. Nichols' Sanatorium for Cancer at Savannah, Missouri. Enclosed please find post card advertisement they put out to lure the dupes and victims—"Cancer, Its Proper Treatment and Cure," mailed free. They publish annually an expensive book—"The Value of Escharotics or Medicines Which Destroy Any Living or Fungus Tissue in the Treatment of Cancer, Lupus, Chronic Ulcers and Tumors," Perry Nichols, B.S., M.D., and Co-Workers, at the Dr. Nichols Sanatorium, Savannah, Missouri. Printed and done into a book at The Roycroft Shops, East Aurora, N. Y., Copyright 1927 by Dr. Nichols Sanatorium, Inc., Savannah, Missouri."

What I want to do is first to have some blood tests taken before Mrs. ——— dies. She may live only a day or two. I meant to have competent medical authorities try to find traces of arsenic poisoning in the blood, or, if too many months have elapsed, then try to determine if symptoms and tissues show effect of arsenic poisoning. Then I want to have the American Medical Association see if the nurse who examined Mrs. ——— was a legal M.D., qualified to prescribe treatment.

I haven't the money—not a dollar—to spend. If your American Medical Association wants to take charge of this case before Mrs. ——— dies, you have my permission as husband to do anything by way of scientific investigation necessary. You may even examine body after death and take specimen of organs.

This, to me, is a fight to a finish with the Nichols Cancer Sanatorium. I am personally willing to brand the institution a fake and let the Savannah imposters send me to prison for misuse of mails. When Mrs. ——— is dead, I might just as well be in jail any way. I couldn't be any more miserable. There ought to be a law to protect the public against these fake "cure-all" institutions. They boast down at the Nichols Sanatorium that over \$1,000,000 has been made.

(Signed) ———.

MISCELLANY

DR. E. W. SAUNDERS

A Sketch of His Work and Character*

JOHN ZAHORSKY, M.D.

ST. LOUIS

Some one has said that feeble orators can add nothing to the glory of extraordinary souls, and only the simplicity of a faithful narrative can do justice in sustaining the glory of a good and brave man.

Let us hope that a biographer will be found who will present to the world a simple, true and faithful story of the life and works of Dr. E. W. Saunders. Personally, I am overwhelmed by the immensity of this subject and must ask your indulgence if my efforts seem vague and useless.

With Carlisle, I believe that every true man feels that he is himself made higher by doing reverence to what is really above him. No one could work or associate with Dr. Saunders for any length of time without feeling this reverence. You might differ profoundly in the correctness of his theories; you might question the practicability of some of his rules of action; you might not approve some of his therapeutic efforts, but in the end your reverence seemed even more pronounced; you were forced to acknowledge him the master.

It is hardly necessary to point out the early influences which molded his character. A Virginian by birth, descended from an ancestry whose members were illustrious in the large activities of eastern America, men prominent as leaders among the aristocratic gentlemen of the South, he, nevertheless, always assumed a manner of the utmost simplicity and kindliness. Back of this simplicity, however, the observer would soon detect a dignity and self-confidence which portrayed his inherited aristocratic tendencies which always overpowered his associates and assistants.

Like many men of strong brain power his activity was scattered over several fields. He took pride in being a classic scholar. He read his Testament in the original Greek text, he studied the old masters in their Latin writings, he read German easily, and every week he perused a French medical journal. The sciences always attracted his interest and aroused his admiration or criticism. Familiar with the history of medicine and the scientific achievements of ancient and modern physicians, he kept up with all the related sciences such as chemistry, physics and especially biology. While being opposed, on religious grounds, to the doctrine of evolution, he was familiar with the works of Darwin, Huxley, Romaine and Haeckel.

In his early career he seemed very much interested in the study of nature but in the last thirty years of his life, being constantly at work in the city, he gradually lost touch with nature, and such subjects as geology, mineralogy, astronomy, zoology and botany had very little attention. For these he had substituted an intensive study of the Bible and biblical history and was generally known as the most advanced Bible student among the physicians of the United States. The average physician of the city loves to roam among the primeval forests and streams, to come in contact with the rocks, the fields and the seas, and thus commune with nature. Dr. Saunders' recreation was to study the Bible and commune with God.

We cannot understand this man unless we recognize this dual manifestation of his intellect. He was a man engrossed in scientific work but passionately fond of religious ideals. Medicine was his workshop but the Church was his home. As a confirmed and uncompromising fundamentalist his belief often clashed with scientific facts and theories, but at no time did his faith tremble in the least. Scientific theories were only convenient working hypotheses, while God's message to man as revealed in the Scriptures was absolute truth. The former were continually changing; the latter was immutable and eternal. Our actions based on science are subject to continual alterations, but the commandments of God endure forever.

He spent much of his energy in defending his faith

*Read before the St. Louis Pediatric Society, February 12, 1928.

from the onslaughts of scientific scoffers. He had great delight in picking out the defects of any theory that threatened to overthrow the absolute truth of biblical revelations. In late years he was especially concerned with the doctrine of evolution. It pained him very much to find many scientists rejecting the special creation of man and attempting to find a natural solution of the origin of the species. To his last conscious day he protested that no one had ever given any valid argument, or presented any incontestable facts, that one species can be developed from another. To base a theory on half a dozen skulls found in various parts of the world seemed to him as puerile as to find a system of treatment on the experience of a score of cases.

He was a voracious student of eschatology and firmly believed that the millennium was about to arrive. To him the World War was the fulfillment of the prophecy in Daniel and Revelations. His calculations, based on the figures found in the prophetic books of the Bible, were wonderful products of his intellect and take rank with the best conclusions of many biblical scholars. He taught and lived in the light of aggressive Christianity. His faith had to be shown by his works. He despised the Laodicean.

The philosophy of his medical practice was molded after that of Lord Bacon and in sharp contrast to the principles of Plato. Medicine was not an art to make men perfect, but rather to make the imperfect man happy and comfortable. "The beneficence of his philosophy resembled the beneficence of the common Father, whose sun rises on the evil and the good, whose rain descends for the just and the unjust." The sufferer had his sympathy and demanded his aid; no question was ever asked as to final valuation of his personal help.

But we are especially interested in his work as a physician. It is in this branch that his excellence remains undisputed. He was above all a practitioner, a master of the healing art. His personality was such that the patient, or parent of a sick child, in a few minutes after his visit, acquired a restful confidence in his ability, sincerity and honesty, for Dr. Saunders believed in the science and art of medicine and unconsciously spread the news among the sick. All difficult and serious cases received unstintingly all his time and energy. The very fact that the diagnosis was obscure or that the treatment was usually ineffective in certain cases seemed only to stimulate him to a more careful examination and repeated and more determined therapeutic efforts. Dr. Bribach, an old friend of Dr. Saunders who often sought him in consultation said, "It does not matter how hopeless the case becomes, the Doctor always had some additional remedy to offer."

Indeed, in this particular, he outclassed all his fellow practitioners. If modern medical science had nothing to offer in any special condition, he would have ready some remedy used by the old masters. Therefore, his armamentarium included such old drugs as *simaruba*, *hydrastis*, *stramonium*, *phytolacca*, *veratrum* and squills. He had an unbounded faith in the efficacy of drugs and his enthusiasm often ran ahead of his scientific judgment. When some new therapeutic remedy was offered he would apply it at once and use it extensively in a variety of diseases. It became his hobby to test out new preparations clinically. In fact, he totally disregarded the warning of the poet, "Be not the first by whom the new is tried." He seemed to be actuated by a feeling that he was chosen to try the new first and communicate his results to his fellow practitioners. He became thereby generally recognized as an

authority on diagnostic and therapeutic methods, and though he may not have published his conclusions in a medical journal his influence was widespread throughout the Mississippi Valley.

More than half of his active career in practice, covering nearly fifty years, was occupied in the general practice of medicine. He became therefore the family physician of many prominent families of this city. And he was indeed a true friend of every member of the household, interested in the servant and the master. He would give as much attention to the ills of the former as to the latter. He had a large obstetric practice for more than thirty years and was a master in the practice of midwifery. The young mothers adored him for his kindness and patience. He would remain with the expectant mother, sometimes for several days, meanwhile turning over his other patients to his assistants. For the purpose of allaying the severe labor pains he would give chloroform intermittently. He did not hesitate in keeping the mother in a semianarcotic state for hours by means of this anesthetic. Only twice to my knowledge was this followed by deleterious results. Severe and fatal symptoms of chloroform poisoning occurred with the typical symptoms of acidosis, coma and fatty necrosis of the liver. But this was many years before the syndrome of chloroform poisoning was understood.

His interest in pediatrics began early in his career and gradually took full possession of his faculties. He was one of the earliest St. Louis physicians who made children's diseases a special study and practice. Although the science of infant feeding was still in a chaotic state his enormous experience enabled him to collect a variety of practical rules which served as very successful guiding ways in practice. With Biedert he considered the casein of milk a cause of dyspepsia and he endeavored to overcome this difficulty in a variety of ways. By means of peptonization, chymization, dilution with cereal decoctions, and especially by the use of whey he carried many cases of nutritional disease to a safe foundation. He early recognized a vitalizing property in foods and thus anticipated the modern theory of vitamins by more than twenty years. He insisted on fresh milk, not prolonged boiled milk. He rejected the highly sterilized milks on the theoretic ground that it was a dead food. He gave cod liver oil freely and always recommended orange juice. In his late years he was an ardent advocate of the use of whole wheat, whole rice and other cereals in their natural form. He was inclined to favor the theory that the use of devitalized foods favors the development of cancer. Thirty years ago he made extensive use of acidified milk in baby feeding, but he used hydrochloric acid. Symptoms of gastric intolerance invariably arose after a time and he finally discontinued its use. He never became friendly to the use of sour milk thereafter.

He did great service in his early recognition of infantile scurvy. He was the first American physician to call attention to congenital pyloric stenosis; he devised a practical treatment by the use of lavage and gavage. Dr. Roland Hill can corroborate my assertion that he suggested the technic of the Rammstedt operation before this surgeon made his first report.

The acute contagious diseases of childhood always had his full interest. He was an expert in the operations of intubation and tracheotomy and for many years seemed to be the only man in St. Louis who could be called upon to relieve the laryngeal stenosis of diphtheria. With the advent of serotherapy he

became an ardent apostle of the antitoxin treatment. He received the first consignment of antitoxin directly from Behring, and announced in vigorous language before the St. Louis Medical Society that a cure for diphtheria had been found when he reported his results in a large series of cases. He insisted on the prompt administration of the antitoxic serum. His assistants will ever remember his famous order, "Never go to bed at night unless you have injected diphtheria antitoxin in every child who is sick with a disease that suggests the possibility of diphtheria." This dictum became generally accepted among the physicians of St. Louis and no doubt saved hundreds of lives.

He was an indefatigable research worker. Most of his efforts and conclusions remained unpublished because his system lacked a clerk, and his time was too occupied to put his labor on record. His greatest effort was made in trying to throw light on the etiology of poliomyelitis. Dr. T. W. White who assisted him in this work can testify to the great expense and time that he contributed to complete this research. In his own judgment Dr. Saunders felt secure that he had discovered the source of this obscure disease, and the green stable fly became the carrier of the poison. Unhappily, the voluminous notes and protocols were never carefully collected and finally were lost entirely. The publication of his conclusions attracted little attention for facts on which he based these conclusions were not displayed. He had undoubtedly proven the presence of a powerful toxin in the larvae of the green flies which feed on the decomposing carcasses of chickens who died of limberneck. This toxin produced lesions of the central nervous system in animals indistinguishable from those known to occur in poliomyelitis. The symptoms induced by inoculations in the monkey resembled those of poliomyelitis. One important fact was lacking, "Was this virus the same as that which produces epidemic poliomyelitis?" The nature of the virus was studied in the Department of Agriculture at Washington and in the bacteriological department of the University of Illinois. The conclusions at both places were that he was dealing with a peculiar strain of the *Bacillus botulinus*, and that limberneck in chickens and various paralytic diseases in animals depend on the ingestion of the *botulinus* poison. He never surrendered his position however and still believed that there is some connection between the green fly, limberneck in fowls, and poliomyelitis in children.

His last researches were connected with the therapeutic indications and clinical value of mercuriochrome given intravenously. These also remain unpublished, but he declared that this remedy was superior in the treatment of certain forms of sepsis, erysipelas, septic sore throat, hemorrhagic nephritis, epidemic encephalitis and other diseases. His assistant, Dr. W. H. Riley, reported very favorable results in the gastro-enteric intoxication of infants.

Dr. Saunders, though strictly an internist, was always interested in surgical technic. He called to his aid at all times in border line cases the services of a competent surgeon. Often he would urge an operation even when the surgeon hesitated. Surgical procedures, such as intravenous injections, intraperitoneal injections, paracentesis, exploratory operations, were part of his therapeutic armamentarium. He was a radical in the removal of tonsils and adenoids, and a staunch believer of the septic focus as a disease producer. The teeth of children were ruthlessly removed on a suspicion of local or general sepsis. While he never lost sight of the factor of resistance, he seemed always determined to do all

he could in the removal or disinfection of the site of the primary infection.

As a clinical teacher Dr. Saunders had no equal. This spirit manifested itself not only in his work as professor of pediatrics in the Missouri Medical College, but ever thereafter in his hospital work with his assistants and interns. Time was never too pressing to study and discuss the features of some unusual clinical case. He would always offer some suggestion based on his extensive reading or the conclusions from his careful examinations. All his assistants had a profound reverence for his opinion, even when apparently not based on scientific analysis. There is something in intuition even in the practice of medicine.

Dr. Saunders graduated at the University of Virginia, Department of Medicine, Charlottesville, July 1, 1875, and spent two years thereafter in the medical schools of London, Paris, Berlin and Vienna. His fifty years of active practice with an enormous clientele no doubt impressed his mighty intellect so that deductions from the unconscious mind often led to uncanny products—the result of his intuition. He would stubbornly hold out on some obscure diagnosis, and the end would prove that he was right. So we, his assistants, could follow his reasons but were generally stunned by some of his bright intuitions.

This is not the place to speak of his charities,—how in organized Bethesda, with the assistance of Mrs. Roger Hayne, he accomplished more real charity than any other single organization in the city and without the solicitation of funds. The work and experience in this charity alone would fill a volume. In the end he gave all he had to charity. Like many students, he was very unfortunate in his investments. Being very honest himself he was often a dupe to others who acted and professed Christianity. Business details were very irksome to him and he never placed a check on those who handled his funds. In the end he died in the harness, a poor man. He wanted no treasures on earth; he only strove for treasures in heaven.

In conclusion, I desire to write a personal tribute to my old friend and master. I was an obscure country boy but graduated with honors from a college in which he taught. He took a fancy to me and made me his first assistant. For several years I labored and studied with him and under him. He was like a big brother and nearly all that I accomplished in after years must be attributed to his splendid influence. I know I voice the feelings of several assistants who worked with him after me, that their one big experience in their lives was the association with Dr. Saunders. He taught us to substitute in place of the Hippocratic oath the fundamental principle of Christianity, "Love thy neighbor as thyself," and showed by his own example how to glorify the noble profession of medicine.

If his former assistants can only in part transmit his practice and art to posterity Dr. Saunders' work will endure for a century.

536 N. Taylor.

REPORT OF THE COMMITTEE ON RADIOLOGICAL FRAUDS AND IMPROPER PRACTICES¹

Some of the remarks made by counselors from various parts of the country seem to indicate that this specialty is threatened by dangers which are more or less peculiar to radiology. It seems

that in different parts of the country fee-splitting, masquerading under various disguises, is becoming rather prevalent. If one were to attempt to find the source of these various tendencies and to classify them, he would give first place to the organizations, corporations, or companies selling stock to physicians and surgeons and encouraging these men to refer their cases to X-ray laboratories operated and owned by such corporations or companies, in the hope of receiving dividends upon their stock; and, of course, the more cases referred, the larger the dividends. The plan constitutes, stripped of its business terminology, nothing more nor less than an offer of a financial inducement to physicians to refer their cases to certain X-ray laboratories. Then we have another type of organization which is rather innocent on its face but which offers discounts to members of the organization. That is to say, if the member refers his cases to the laboratory in which he is financially interested, he may have charges for X-ray services made to himself, and then he may take a discount of 20 or 25 per cent. or more and collect the full fee from the patient. As a matter of fact, there is no restriction whatever to the fees this man may charge; he may obtain his X-ray services on a small fee basis, and then take his discount and charge his patient a large fee for the same service. This creates a rather dangerous situation. Some of these laboratories which operate as stock companies are operating without a roentgenologist in charge, the members themselves claiming they are quite competent to make their own interpretations, their own fluoroscopic observations, and to prescribe treatment. Some of them employ a physician as a figurehead, who is supposed to pass upon cases coming to the clinic, but he actually does not. The diagnosis is made by the technician and the physician's name is signed to the report.

Now, in order to bring this matter before the Society and try to get something concrete done we have prepared a set of resolutions upon which we ask your approval. The question will arise, of course, in all of your minds, as to what good this may accomplish. It seems to your committee that, if it does nothing more, it will place us on record with a certain definition of commercial X-ray laboratories and unethical X-ray laboratories; it will define clearly what we regard as ethical practice and as unethical practice. With that backing, we can go before our own local medical societies to obtain their support in cleaning up this situation in various localities throughout the United States. Here are the resolutions which we have to present:

WHEREAS, Certain practices are becoming prevalent in various parts of the United States which threaten the welfare of radiology, affecting the practice of this branch of medical science in a peculiar, deleterious, and harmful manner, and

WHEREAS, It is an important function of any medical organization to protect its specialty from the harmful effects of improper, unethical, or dishonest practices, therefore, be it

Resolved, By the Radiological Society of North America, in Executive Session at its Thirteenth Annual Meeting, that: (1) Radiological diagnosis is a consulting specialty of medicine, the chief function of which is to aid practitioners of other specialties and of general medicine in the diagnosis and treatment of disease; (2) that it is improper and unethical for any radiologist or any organization practicing radiology to offer discounts or commissions, or other financial inducements, to attract patients either directly or through reference by other physicians; (3) that it is unethical for any radiologist or organization practicing radiology to make charges to referring physicians for services rendered, but that all such charges must be made against the patient for whom such services are rendered; (4) that a commercial X-ray laboratory is defined as one which advertises to make radiographic or fluoroscopic examinations

for physicians and surgeons for the avowed or apparent primary purpose of financial gain; (5) that it is improper and unethical for any radiologist to become affiliated with a commercial X-ray laboratory; (6) that a stock company or corporation with physicians and surgeons as stockholders, offering dividends as an inducement to refer cases to a laboratory owned and operated by such company or corporation, is unethical, and that such dividends be regarded in the same light as commissions or discounts. A group of physicians may properly own and operate an X-ray department or laboratory, providing the earnings therefrom are employed for the advancement of the science of radiology or other branches of medicine or the maintenance and improvement of service to patients, but not as an inducement to stockholders to refer cases in the hope of receiving greater dividends, and be it further

Resolved, (7) That an X-ray laboratory is to be considered unethical if therefrom emanate diagnostic reports based upon the radiologic observations of technicians who do not possess a medical degree or license to practice medicine.

The mere signature of a physician to such reports is to be regarded as an evasion of this rule unless such signatory has actually made the observations and drawn the conclusions upon which such reports are based, and be it further

Resolved, (1) That no radiologist engaging in unethical practice according to the above definition shall be eligible to membership in this Society, and that no technician affiliated with an unethical or commercial laboratory shall be eligible to registration; (2) that a copy of these resolutions be forwarded to each state medical society with a request that they be published in the official journal; (3) that a committee be appointed to obtain the official approval of these resolutions by the American College of Radiology, the American College of Surgeons, and the American College of Physicians.

1. Read at the Thirteenth Annual Meeting of the Radiological Society of North America, at New Orleans, Nov. 28 to Dec. 2, 1927.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES
WHICH HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

Platte County Medical Society, March 10, 1928.

Miller County Medical Society, March 16, 1928.

Camden County Medical Society, March 23, 1928.

Ste. Genevieve County Medical Society, March 26, 1928.

Atchison County Medical Society, March 30, 1928.

Caldwell County Medical Society, April 14, 1928.

Scotland County Medical Society, May 1, 1928.

Schuyler County Medical Society, May 8, 1928.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in the county court room at Kingston, Thursday, March 22, 1928. The following members were present: Drs. George S. Dowell, Braymer, president; Tinsley Brown, Hamilton, secretary; E. A. B. Thompson, Breckenridge; H. H. Patterson, Braymer; B. F. Carr, Polo; W. S. Shouse, Kingston; J. E. Gartside, Kingston; L. M. Daley, Hamilton. The minutes of the meeting held at Polo, January 26, were read and approved.

Many clinical cases were reported by several members and a lengthy discussion followed.

Meeting of April 26

The Society met in the Library building at Hamilton, April 26, at 2 p. m. Members present: Drs. George S. Dowell, Braymer, president; Tinsley Brown, Hamilton, secretary; O. C. Kilbourn, Cowgill; E. A. B. Thompson, Breckenridge; W. S. Shouse, Kingston; L. M. Daley, Hamilton; H. H. Patterson, Braymer; H. C. Wilbur, Polo; C. L. Woolsey, Braymer. Drs. Eugene P. Hamilton and R. H. Underwood, Kansas City, were present by invitation and were accorded the privileges of the Society. The minutes of the previous meeting were read and approved.

Dr. R. H. Underwood, Kansas City, addressed the Society on "Sinus Disease" as to its cause, anatomy and treatment. His address was well received and discussed.

Dr. Eugene P. Hamilton, Kansas City, read an interesting paper with reference to pain in the abdomen. He interspersed his remarks with reports of many cases which he had treated. Dr. Hamilton's subject was thoroughly discussed and a great deal of information was acquired from his paper.

The speakers were given a vote of thanks by the Society for their splendid papers.

TINSLEY BROWN, M.D., Secretary.

CHRISTIAN COUNTY MEDICAL SOCIETY

The Christian County Medical Society met April 10, 1928, at Ozark. The following officers were elected for the year 1928: President, H. J. Wise, Sparta; vice president, J. H. Wade, Ozark; secretary-treasurer, F. H. Brown, Billings; delegate, H. J. Wise, Sparta; alternate, J. C. Young, Ozark.

A clinic on tuberculosis was held under the supervision of the Missouri Tuberculosis Association. Some very instructive points were derived therefrom.

F. H. BROWN, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met in Glasgow, March 30, 1928, after being inactive for several months. Members present: Drs. V. Q. Bonham, W. A. Bloom and W. J. Shaw, of Fayette; W. R. Hawkins, W. B. Kitchen and C. H. Temple, of Glasgow. The meeting was called to order by the President, Dr. V. Q. Bonham, Fayette. The minutes of the last meeting were read and approved.

Officers elected for 1928 were: President, W. R. Hawkins, Glasgow; vice president, W. J. Shaw, Fayette; secretary-treasurer, W. A. Bloom, Fayette; delegate, W. B. Kitchen, Glasgow; alternate, W. R. Hawkins, Glasgow.

It was agreed that the regular meeting of the Society be held the first Friday night of each month, alternating the place of meeting between Glasgow and Fayette.

W. A. BLOOM, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session April 3, 1928, at the Joplin Y. M. C. A. at eight p. m. with President John L. Sims, Joplin, in the chair. Twenty-four members and five guests were present. The minutes of the meeting of March 27 were read and approved.

The application of Dr. Peter C. Kelley, Lanagan, was reported favorably by the board of censors and he was unanimously elected to membership in the Society.

The president introduced Dr. Douglas, of the Jasper County Tuberculosis Hospital, Webb City, who made a short address on the tuberculosis work which he expected to carry on in the county.

The essayists of the evening were Drs. G. B. Norberg and R. L. Hoffmann, of Kansas City.

Dr. Norberg was introduced by Dr. H. A. Leaming, Joplin, who reminded his former teacher of some of the old days at school in a few interesting remarks.

Dr. Norberg gave a lecture on the anatomy, physiology, and pathology of the female pelvis. He discussed the various treatments, medicinal and surgical, their faults and advantages.

Dr. Hoffmann followed with a lecture on the bladder in reference to infection, its cause and treatment.

Each lecture was instructive and valuable and was discussed by many members.

Meeting of April 10, 1928

The Jasper County Medical Society met at the Joplin Y. M. C. A. at eight p. m., President John L. Sims, Joplin, presiding. Eighteen members and one guest, Dr. W. B. York, Sarcoux, were present. The minutes of the meeting of April 3 were read and approved.

The application of Dr. Jesse E. Douglas was read and he was unanimously elected a member of the Society.

The principal speaker of the evening, Dr. H. A. LaForce, Carthage, presented a paper on "The Symptoms of Menopause." He first discussed the embryology and physiology of the ovaries, then the various symptoms which women ordinarily expect and experience at the climacteric. He paid particular attention to the different methods of relieving the unpleasant symptoms of this period, and gave his personal experience with the use of corpus luteum which had been very gratifying in most instances.

This was an extremely good paper as evidenced by the discussion of the following members: Drs. S. H. Miller, P. C. Kelley, E. D. Hatcher, E. J. McIntire, J. W. Barson, L. B. Clinton, R. McM. Stormont and L. C. Chenoweth.

ROY E. MYERS, M.D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The Pettis County Medical Society met at a banquet in the Bothwell Hotel, Sedalia, April 16, 1928, with twenty-one members and four guests present as follows: Drs. W. A. Beckemeyer, J. W. Boger, Cord Bohling, W. T. Bishop, A. J. Campbell, J. B. Carlisle, D. P. Dyer, L. C. Edmonds, W. G. Jones, F. B. Long, J. E. Mitchell, A. E. Monroe, F. R. Morley, E. H. Schaeffer, M. P. Shy, C. B. Trader, A. L. Walter and E. F. Yancey, of Sedalia; W. H. Dellinger, Smithton; J. D. Prowell, Longwood; C. P. Cartwright, Hughesville. The guests included the two principal speakers of the evening, Drs. Pat Fite and F. G. Dorwart, of Muskogee, Oklahoma; Father Daniel, of the Sedalia Catholic church, and Mr. Paul Ingram, secretary of the Sedalia Chamber of Commerce.

Following the banquet Father Daniel explained to the Society that the Sisters of St. Mary were anxious to build an addition to their hospital and said that if the citizens of Sedalia could raise \$35,000 towards this project, ultimately they would have a hospital here on which would be expended somewhere between \$150,000 and \$200,000, but that this \$35,000 must be given them in cash before they could do this.

Mr. Paul Ingram, secretary of the Sedalia Chamber of Commerce, talked to the members stating that in his opinion the Chamber of Commerce would get behind this movement and that there would be a meeting of the Chamber of Commerce on Wednesday night, April 18, at which time this project would be taken up.

Dr. E. F. Yancey, Sedalia, acting as chairman, introduced Dr. F. G. Dorwart, of Muskogee, Oklahoma, who made a brief but most interesting address on the vagus nerve.

The principal speaker of the evening, Dr. Pat Fite, of Muskogee, Oklahoma, introduced by Dr. E. F. Yancey, delivered an address on "Local Anesthesia." Dr. Fite dwelt at length on the advantages of local anesthesia over ether anesthesia in certain cases, carrying us from the head to the feet, and when he had finished one began to wonder if we had any use for chloroform and ether at all.

These guests were both interesting and forceful speakers and handled their subjects in a most capable manner.

After the program a short business session was held.

Dr. A. L. Walter, Sedalia, brought up the question of crippled children. It was moved that the president, Dr. A. L. Walter, ascertain from the secretary of the State Medical Association, Dr. E. J. Goodwin, St. Louis, whether or not the Association approved this work as sponsored by the Rotary Club. Motion seconded and carried.

Dr. M. P. Shy, Sedalia, moved that the president appoint a committee of two to represent the Society at the meeting of the Chamber of Commerce on Wednesday night, April 18, in regard to the St. Mary's Hospital plan. With the consent of Dr. Shy, Dr. A. E. Monroe, Sedalia, amended this motion to include the president of the Society, Dr. A. L. Walter. The motion, as amended, was seconded and carried. The committee included Drs. A. L. Walter, president, and J. B. Carlisle, Sedalia.

It was moved that Drs. E. F. Yancey and C. B. Trader, Sedalia, be instructed to tell Dr. W. J. Ferguson, Sedalia, how much the members missed him at this meeting and that they wish him a speedy recovery. Motion seconded and carried.

Dr. Yancey reported that he had visited Dr. Ferguson, that he was cheerful and getting along nicely and that he had asked him to express his regrets to the Society for not being able to be present tonight.

F. B. LONG, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society met at luncheon with the Woman's Auxiliary at the New Virginia Hotel in Marshall, April 11. Fifteen members were present. After the routine business had been attended to the following program was given:

Dr. F. M. McCallum, Kansas City, read a very interesting paper on "Pyelitis," illustrating his different points with lantern slides.

The Fitzgibbon Memorial Hospital observed Hospital Day on May 12. Drs. G. A. Aiken, A. E. Gore and R. W. Kennedy, Marshall, appointed by President F. A. Howard, Slater, assisted the superintendent,

Mrs. Edwards, in the preparation of the hospital celebration.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held April 11, 1928, at the Webster Groves Trust Company. The meeting was called to order at 3 p. m. by the vice president, Dr. H. A. Goodrich, Webster Groves. Members present: Drs. J. H. Armstrong, Kirkwood; Irene M. Blanchard, Webster Groves; P. M. Brossard, Maplewood; H. N. Corley, Webster Groves; C. L. Davis, Webster Groves; R. B. Denny, Sr., Creve Coeur; D. Henry Hanson, Kirkwood; C. C. Irick, Webster Groves; Garnett Jones, St. Louis; Joseph McNearney, St. Louis; Horine Miles, Webster Groves; Wm. F. O'Malley, Webster Groves; Otto N. Schudde, Ferguson; J. A. Sterling, St. Louis; J. B. Suduth, Clayton; J. D. Thurman, St. Louis; J. A. Townsend, Eureka; E. E. Tremain, Maplewood: There were three visitors present: Drs. E. J. Goodwin, St. Louis, Secretary of the State Medical Association, R. B. Denny, Jr., Creve Coeur; Frederick C. E. Kuhlmann, Webster Groves.

The application of Dr. Richard Paddock, St. Louis, was presented to the Society and referred to the membership committee.

A motion was made and seconded that Dr. Phillips N. Davis, St. Louis, be accepted as an associate member. Carried.

It was moved and seconded that Dr. Leo A. Will, St. Louis, be received as an associate member in the Society. Motion carried.

Dr. H. N. Corley, Webster Groves, chairman of the St. Louis County hospital committee, reported on the progress made by the committee.

A motion was made and seconded that a letter of sympathy and flowers be sent to Dr. Otto W. Koch, St. Louis, who is confined at St. John's Hospital. Carried.

Dr. H. A. Goodrich, Webster Groves, gave a very interesting and instructive talk on "The Present Influenza Epidemic." Several members made comments on this subject and gave case reports.

E. E. TREMAIN, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.
President-Elect, Mrs. M. P. Ravenel, Columbia.
1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. Hudson Talbott, St. Louis.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.

Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Shaufler, Kansas City; Mrs. J. F. Owens, St. Joseph; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Hinchey, University City; Mrs. H. A. Briery, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler.

ORGANIZED COUNTIES AND PRESIDENTS
OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. R. W. Berrey.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph
Butler.....	Mrs. W. W. Ford.....	Gordonville
Cape Girardeau.....	Mrs. L. B. Knecht.....	Poplar Bluff
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Daviess.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. W. S. Campbell.....	Albany
Greene.....	Mrs. T. O. Klingner.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
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Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
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New Madrid.....	Mrs. P. M. Mayfield.....	Portageville
Pike.....	Mrs. T. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Louis City.....	Mrs. Hudson Talbott.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

SCARLET FEVER STREPTOCOCCUS TOXIN—Squibb.—This product (New and Nonofficial Remedies, 1927, p. 375) is now marketed in packages of five vials of toxin containing, respectively, 500, 2,000, 8,000, 25,000 and 60,000 skin test doses; in packages of fifty vials of toxin, ten containing 500 skin test doses, ten containing 2,000 skin test doses, ten containing 8,000 skin test doses, ten containing 25,000 skin test doses, and ten containing 60,000 skin test doses. E. R. Squibb & Sons, New York.

SULPHARSPHENAMINE—DePree.—A brand of sulpharsphenamine (New and Nonofficial Remedies, 1927, p. 80). It is supplied in ampules containing, respectively, 0.1, 0.15, 0.2, 0.3, 0.4, 0.45, 0.6, 1.0, and 3.0 Gm. The DePree Co., Holland, Mich. (*Jour. A.M.A.*, November 5, 1927, p. 1807.)

EPHEDRINE HYDROCHLORIDE—Pemco.—A brand of ephedrine hydrochloride—N.N.R. For a discussion of the actions, uses and dosage of ephedrine hydrochloride see *The Journal A.M.A.*, March 19, 1927, p. 925. Prophylacto Manufacturing Co., Chicago.

EPHEDRINE SULPHATE—P. D. & Co.—A brand of ephedrine sulphate—N.N.R. For a discussion of the actions, uses and dosage of ephedrine sulphate, see *The Journal A.M.A.*, March 19, 1927, p. 925. Parke, Davis & Co., Detroit. (*Jour. A.M.A.*, November 12, 1927, p. 1693.)

NASON'S PALATABLE COD LIVER OIL—Cod liver oil containing 0.63 per cent of essential oils as flavoring, having a vitamin A potency such that 0.002 Gm. per day is adequate to promote the growth of young albino rats and a vitamin D potency such that 0.02 Gm. per day for eight days will cure experimental rickets in rats which have been deprived of vitamin D and of ultraviolet light. Tailby-Nason Co., Boston.

TYPHOID VACCINE—This typhoid vaccine (New and Nonofficial Remedies 1927, p. 267) is also marketed in packages of 30 ampules (ten complete immunizations). The Gilliland Laboratories, Inc.,

Marietta, Pa. (*Jour. A.M.A.*, November 19, 1927, p. 1783.)

EPHEDRINE—Ephedrina.—Ephedrine base.—An alkaloid derived from *Ephedra equisetina*. The actions and uses of ephedrine are the same as those of the ephedrine salts. The free alkaloid is employed in mediums, such as oils, in which it is more soluble than the salts. Ephedrine occurs as an unctuous, almost colorless solid. It is soluble in alcohol, chloroform, ether and water.

EPHEDRINE—Lilly.—A brand of ephedrine—N.N.R. It is supplied in the form of Inhalant Ephedrine Compound—Lilly, containing ephedrine—Lilly, 1 per cent (by weight) in a liquid composed of menthol, 0.66 Gm.; camphor, 0.66 Gm.; oil of thyme, 0.31 cc.; liquid petrolatum to make 100 cc. Eli Lilly & Co., Indianapolis.

POLLEN EXTRACTS—Cutter (New and Nonofficial Remedies, 1927, p. 34; *The Journal A.M.A.*, June 11, 1927, p. 1891).—Also marketed in single vial packages containing 5 cc. of a 1:100 solution. Cutter Laboratory, Berkeley, Calif.

POLLEN EXTRACTS CONCENTRATED—Cutter.—Liquid obtained by extracting the dried pollen of plants with a liquid consisting of 67 per cent of glycerin and 33 per cent of a buffered saline solution. For a discussion of the actions, uses and dosage, see Allergic Protein Preparations, New and Nonofficial Remedies, 1927, p. 23.

ANAEROBIC ANTITOXIN—An antitoxic serum prepared by immunizing animals against the anaerobic bacteria found in gangrenous wounds. Evidence has been published to indicate that the use of anaerobic toxin preparations may be of value in the treatment of gas gangrene.

AMPULES DEXTROSE (d-Glucose) 10 Gm., 20 cc.—Each ampule contains Dextrose, U.S.P., 10 Gm.; cresol, 0.1 per cent; distilled water to make 20 cc.; buffered with dibasic sodium phosphate anhydrous and potassium biphosphate anhydrous. H. K. Mulford Co., Philadelphia.

AMPULES DEXTROSE (d-Glucose) 25 Gm., 50 cc.—Each ampule contains Dextrose, U.S.P., 25 Gm.; cresol, 0.1 per cent; distilled water to make 50 cc.; buffered with dibasic sodium phosphate anhydrous and potassium biphosphate anhydrous. H. K. Mulford Co., Philadelphia. (*Jour. A.M.A.*, December 10, 1927, p. 2041.)

INSULIN—Squibb, 100 units, 10 cc.—Each cc. contains 100 units of insulin—Squibb (New and Nonofficial Remedies, 1927, p. 197). E. R. Squibb & Sons, New York.

ANAEROBIC ANTITOXIN (Polyvalent)—Lederle.—An antitoxic serum prepared by immunizing horses with gradually increasing doses of B. tetani and of B. welchii and Vibriion septique both obtained from anaerobic broth cultures of the organisms. Potency tests for the content of tetanus antitoxin and B. welchii (perfringens) antitoxin are made according to the methods prescribed by the U. S. Hygienic Laboratory; for determining the strength of the Vibriion septique antitoxin, serial dilutions of the antitoxin are mixed with Vibriion septique toxin and the mixtures injected into rabbits. The product is marketed in 100 cc. vials, each cubic centimeter containing 50 units of tetanus antitoxin, 2 units of perfringens (B. welchii) antitoxin, and sufficient Vibriion septique antitoxin to neutralize one thousand M.L.D. of the Vibriion septique toxin. Lederle Antitoxin Laboratories, New York.

STAPHYLOCOCCUS MIXED BACTERIN.—A staphylococcus vaccine (New and Nonofficial Remedies, 1927, p. 363), each cc. containing 4,000 million killed *Staphylococcus albus* and *Staphylococcus aureus* in equal proportions. It is marketed in 5 cc. vial packages; in single 20 cc. vial packages; and in packages of six 1 cc. ampules. Abbott Laboratories, North Chicago, Ill.

ERYTHROL TETRANITRATE TABLETS.—Merck, $\frac{1}{4}$ grain. —Each tablet contains $\frac{1}{4}$ grain of erythrol tetranitrate (New and Nonofficial Remedies, 1927, p. 267). Merck & Co., Inc., Rahway, N. J. (*Jour. A.M.A.*, December 24, 1927, p. 2193.)

TYPHOID PROPHYLACTIC.—This typhoid vaccine (New and Nonofficial Remedies, 1927, p. 366) is also marketed in 5 cc. vials containing 1 billion killed typhoid bacilli per cc.; in 20 cc. vials containing 1 billion killed typhoid bacilli per cc. Abbott Laboratories, North Chicago, Ill. (*Jour. A.M.A.*, December 31, 1927, p. 2263.)

PROPAGANDA FOR REFORM

DIETARY DEFICIENCIES AND INFECTION.—A study has been made attempting to correlate the production of rickets with the susceptibility to tuberculosis. In the white rat, rickets may be produced with comparative ease. On the other hand, this animal is highly resistant to tuberculosis when the organisms are given subcutaneously. Young rats were fed on rations presumably adequate with the exception of calcium and the antirachitic factor. Rickets regularly appeared, more readily in cloudy weather than in bright. In the group of these animals injected with tuberculosis organisms the disease could be demonstrated. The series given the defective ration alone developed rickets but no tuberculosis, while doses of the infecting organisms many times larger than those used in the rachitic group failed to induce tuberculous lesions in a number of rats given an adequate ration. Similar results were obtained when the experimental ration lacked only vitamin D for several generations. Rickets was produced and with it a susceptibility to tuberculosis. (*Jour. A. M. A.*, February 4, 1928, p. 386.)

BATHROOM HEATER AS A "PATENT MEDICINE."—Electric heaters, dignified by the name of infra-red generators and adorned with enamel and nickel, are being sold to the public at high prices as potent therapeutic agencies. The book of uses which always accompanies a bathroom heater when it is sold as a therapeutic agent, usually appears to be the work of one whose chief qualification was that he had access to a medical dictionary. True, these lamps generate infra-red rays, but so does a steam radiator or any other hot body. (*Jour. A. M. A.*, February 4, 1928, p. 388.)

ABRAMSISM ABROAD.—The fantastic hokum of Albert Abrams is practically a dead issue in the United States. It has been relegated in this country to obvious fakers, some osteopaths, and the occasional physician who suffers from an itching palm or a lack of scientific balance. The Abrams' fantastic hokum is now deluding the credulous in England, Canada and France. In Canada it has no support from the more responsible element of the medical profession. In France, the Abrams nonsense seems to be mainly boosted by one Regnault. It is in England, however, that the E. R. A. has taken on its most amusing, or, should we say, its most tragic aspect. The chief exponent of the Abrams cult in the British Isles is Sir James Barr, who was once presi-

dent of the British Medical Association. Sir James seems to have swallowed Abrams' theories hook, line and sinker. (*Jour. A. M. A.*, February 4, 1928, p. 401.)

LIVER DIET IN ANEMIA.—While liver seems to be presenting increasing evidence of its value in the treatment of anemia, physicians everywhere are finding it difficult to keep patients contented and happy while they are taking it. This state of affairs is due partly to the fact that few people can cook liver in any other way than by frying. Recipes taken from English and French sources include many ways of preparing liver for the table. (*Jour. A. M. A.*, October 15, 1927, p. 1335.)

ASTHMA-SERA.—This is another iodide—containing asthma and hay fever nostrum. The statement "Asthma-Sera Ends Asthma and Hay Fever Forever" appears on the stationery sent out by the R. M. B. Laboratories, Seattle, Washington. It does not appear on the trade packages which are subject to the control of the federal authorities which enforce the Federal Food and Drugs Act. Four bottles of Asthma-Sera "is considered a full treatment"; price \$10.50. However, the purchaser of four bottles is told that, if any symptoms of asthma remain when the first half of the fourth bottle is finished, he "should order two more bottle of Asthma-Sera immediately." The A.M.A. Chemical Laboratory analyzed Asthma-Sera and reports that it is essentially a solution containing 8.8 per cent. strontium iodide, 0.43 per cent. sodium iodide, and an emodin-bearing (laxative) drug. That iodides will be effective in certain forms of asthma is well known to every physician. Strontium iodide has no advantage over sodium or potassium iodide. (*Jour. A. M. A.*, February 11, 1928, p. 480.)

SANARTHIT AND TELATUTEN NOT ACCEPTABLE FOR N. N. R.—The Council on Pharmacy and Chemistry reports that Sanarthrit and Telatuten are products of Luitpold-Werk, Munich, Germany, distributed in the United States by East Brook, Inc., New York, claimed to be tissue preparations which owe their origin to Professor Ernst Heilner of Munich. Sanarthrit is proposed for intravenous use as a "causal therapy of all forms of chronic arthritis." It is claimed to be "a specific substance of protein nature; the definite chemical composition is not yet cleared up"; it is "made from animal cartilaginous tissue and purified." The Council found Sanarthrit unacceptable for New and Nonofficial Remedies because the statement of its composition is vague and indefinite; because evidence is not offered to show that its composition is uniform; because it is marketed under a therapeutically suggestive, proprietary name and because the claims for its value are not supported by acceptable clinical evidence and are therefore unwarranted. According to the information furnished the Council by the Luitpold-Werk, Telatuten is stated to be "a specific substance of protein nature; the definite composition is not yet cleared up" and it is "made from the entire blood-vessel wall (intima, media, adventitia) of slaughtered animals, and purified." Telatuten is proposed as a "causal treatment of arteriosclerosis." The Council found Telatuten unacceptable for New and Nonofficial Remedies because its composition is indefinite and no evidence is offered to show that its uniformity is controlled; because it is marketed under a therapeutically suggestive, proprietary name; and because there is no acceptable evidence for its therapeutic value and efficacy, the claims made for its use being therefore unwarranted. (*Jour. A. M. A.*, February 11, 1928, p. 463.)

BOOK REVIEWS

MANAGEMENT OF THE SICK INFANT. By Langley Porter, B.S., M.D., M.R.C.S. (Eng.), L.R.C.P. (Lond.), Professor of Clinical Pediatrics, University of California Medical School, etc., and William E. Carter, M.D., Instructor in Pediatrics, University of California Medical School, San Francisco. Third revised edition. Illustrated. St. Louis. The C. V. Mosby Company. 1927. Price \$8.50.

The third edition of this standard work on pediatrics is brought completely up-to-date with the addition of seventy pages of new matter and the revising of the previous edition. It is a valuable book replete with practical suggestions, and gives in the most complete detail the methods of procedure in such operations as spinal puncture, intraperitoneal injections, etc.

We cannot agree with Porter's statement that "Rickets is not proportionately more frequent among children who have been fed on condensed milk than it is among those fed on approved formulas."

It is a convenient reference for pediatricians and a useful book for the general practitioner.

P. G. H.

THE OPHTHALMIC YEAR BOOK. Containing Bibliographies, Digests, and Indexes of the Literature of Ophthalmology for the year 1926. Volume XXIII. Edited by William H. Crisp. With collaboration of others. Ophthalmic Publishing Company, Chicago. September, 1927.

This complete reference book to ophthalmic literature has been published yearly, or quarterly, since its origination by Dr. Edward Jackson in 1903. Under the present editorship of Dr. W. H. Crisp and thirty collaborators it most thoroughly covers its field, reviewing and digesting articles both in the ophthalmic and general medical journals. The field is divided into thirty-two parts and each is covered in the thirty-two chapters. The volume is completely indexed both as to subject and authors.

In the introduction the editor announces that this will probably be the last issue of the Year Book, owing to the difficulty in obtaining the needed literary help and also proper financial support. This will certainly be a calamity to ophthalmic readers. It is to be hoped that some sort of permanent endowment will be given this most useful undertaking.

J. W. K.

AN INTRODUCTION TO CLINICAL PERIMETRY. By H. M. Traquair, M.D., F.R.C.S., Ed., Assistant Ophthalmic Surgeon, Royal Infirmary, Edinburgh, etc. With 164 illustrations and coloured plate. C. V. Mosby Company. 1927. Price \$13.50.

The author is exceptionally well qualified to present this volume as he has written much and well on the subject. The result has not been disappointing as the book is a valuable asset and of unquestioned merit. He compares the field to an island or hill of vision surrounded by a sea of blindness. He describes the normal field in detail, dividing it into a central, an intermediate and a peripheral zone. He also gives a concise description of the various instruments and methods for measuring and recording the fields of vision with reference to their interpretation. The author lays stress upon the importance of varying the size of the text object.

The title of the book is somewhat misleading as the work, far from being merely an introduction, is

well-nigh all embracing and, what is more, is presented in a simple style easily grasped by one with only an elementary knowledge of the subject.

M. W.

HOW TO MAKE THE PERIODIC HEALTH EXAMINATION. A Manual of Procedure. By Eugene Lyman Fisk, Medical Director, Life Extension Institute, and J. Ramser Crawford, Assistant Medical Director, Life Extension Institute. Foreword by Major General Merritte W. Ireland, Surgeon General, United States Army. The Macmillan Company, New York City. 1927.

Although the question of periodic health examinations was first urged by Dobell in 1861, it is only in the last few years that a serious drive has been attempted to increase the interest in the movement by such important medical organizations as the American Medical Association, the American Public Health Association, the National Tuberculosis Association and others.

This volume is designed for special workers in this field as well as for those who wish to acquire precision and completeness in the general diagnostic field. Introductions to the various sections are written by men prominent in their respective fields of medicine.

The table of contents includes not only a complete outline for reginal examination and laboratory standards but general advice on counselling, specimen forms, office records and everything essential to this type of work.

R. L. T.

THE MECHANICS OF THE DIGESTIVE TRACT. An Introduction to Gastroenterology. By Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation). With one hundred illustrations. Second edition. New York: Paul B. Hoeber, Inc. 1928. Price \$7.50.

Alvarez' second edition of "The Mechanics of the Digestive Tract" has been considerably enlarged and the literature appears to be practically complete. Dr. Alvarez possesses, probably more than any living physiologist, the ability to correlate his research work with clinical medicine.

The entire book is of extreme interest to the clinician particularly the chapter on the movements of the stomach following gastro-enterostomy, that on the diseased stomach and the one on flatulence.

The book is iconoclastic in character inasmuch as it shatters many of our ideals and notions that we held as basic principles. The author's apology is a quotation from Josh Billings, "That it is better not to know so much than to know so many things that aren't so."

This book should be read by everyone interested in physiological medicine.

H. W. S.

MINOR SURGERY. By Arthur E. Hertzler, M.D., F.A.C.S., Chief Surgeon, Halstead Hospital, and Victor E. Chesky, A.B., M.D., F.A.C.S., Chief Resident Surgeon, Halstead Hospital. With 438 illustrations. St. Louis: C. V. Mosby Company. 1927. Price \$10.00.

This volume is dedicated to the memory of Agnes H. Hertzler-Huebert, B.S., M.D., Ophthalmologist to the Halstead Hospital. The dispensary student is made to appreciate what he sees in the outpatient clinic.

The very useful illustrations lend great value to

this book since they are decidedly clear and good. Practically every intern will derive great benefit from a careful study of the book.

The first two chapters are devoted to suturing, bandaging, dressings, etc. The remaining chapters deal with regional conditions requiring minor and urgent surgery. The technic of treatment has received due consideration. Possibly the experienced surgeon might feel that some of the more important subjects discussed should have been given more thorough consideration but as a whole the book will meet a long felt want.

The book is excellently printed and is a valuable addition to the library of both the dispensary student and intern as well as the young practitioner.

E. A. B.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. With Especial Reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis. By Hobart Amory Hare, B.Sc., M.D., LL.D., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia, etc. Twentieth edition. Enlarged, thoroughly revised and largely rewritten. Illustrated with 158 engravings and 8 plates. Lea & Febiger. Philadelphia. 1927. Price \$7.50.

The 20th edition of Hare's Therapeutics is in every way equal to the high standard set by its predecessors. It has been brought up-to-date and all the new remedies, such as novasurol, ephedrin, antiscarlatinal serum, etc., are discussed in a critical manner while new methods of treatment, such as the use of hypodermic salt solution in head injuries and the liver diet treatment of pernicious anemia, are fully discussed. Many of the articles have been rewritten or revised and everything worth while in therapeutics is to be found in this volume. The fact that a new edition of this work makes its appearance every year or two shows that it has found a place in the library of many busy practitioners. The work can be unreservedly recommended as the most authentic regarding practical therapeutics.

L. H. H.

A TEXTBOOK OF EXODONTIA. By Leo Winter, D.D.S. Professor of Oral Surgery, New York University College of Dentistry; Oral Surgeon, Flower Hospital, etc. 329 illustrations. St. Louis: The C. V. Mosby Company. 1927. Price \$7.50.

More than one-third of this book is taken up with anesthesia. The first chapter is on general anesthesia by Gwathmey, and gives a clear history of anesthesia which is not tainted with unfairness toward any of the early workers. There is a very complete discussion of local anesthesia and its use is strongly advocated by the author in all possible instances. "The margin of safety with nitrous oxide is entirely too narrow for it to retain a reputation as the 'safest anesthetic in the world.'" "Medico-legally, the dental surgeon is protected if he employs local novocain anesthesia." The technic of injections is well described and illustrated, many of the latter taken from Smith's "Block Anesthesia."

The author feels that it is safe to extract teeth when the face is swollen and believes there is no basis for the opinion that there is danger when doing so. The danger lies, he says, in spreading infection by anesthetic infiltration but the use of conduction or general anesthesia prevents this. Many will take issue with these ideas and think the author's description of infections associated with dental work is not adequate. The technic of extractions is

very well described and illustrated, the X-rays being especially well reproduced.

The book is a readable, straightforward expression of the author's ideas on the subject. It should be a help to dentists, exodontists, and surgeons too who are occasionally called upon to extract teeth.

V. P. B.

MANUAL OF OPERATIVE SURGERY. By Sir Holburt J. Waring, M.S., M.B., B.Sc. (Lond.), F.R.C.S., Surgeon to and Joint-Lecturer in Surgery at St. Bartholomew's Hospital, etc. Sixth edition. Illustrated with 618 figures. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$5.25.

This edition is a brief, concise review of the field of operative surgery. Operations upon the brain, eye, ear, nose, throat, chest, abdomen and extremities are described and chapters are included on operating room equipment, sterilization and technic.

In dealing with so comprehensive a subject in such a small space it is obviously impossible to include the minute details of all of the operations described. The work does, however, give an adequate description of the general plan of procedure in a terse, well written manner. It gives the impression of being an amplified dictionary of operative surgery containing an enormous amount of information in a small space.

The book probably has its greatest usefulness among medical students, who need a general knowledge of operative procedures, and among surgeons who desire a rapid review of some phase of an operative procedure.

H. E. P., Jr.

GYNECOLOGY FOR NURSES. By Harry Sturgeon Crossen, M.D., F.A.C.S., Professor of Clinical Gynecology, Washington University Medical School, etc. With 365 engravings, including one color plate. St. Louis: The C. V. Mosby Company. 1927. Price \$2.75.

With his usual patience, thoroughness and insight, Dr. Crossen has produced another book that will be a monument to him for some time to come.

We will describe Part 2 first, for reasons that will appear later. Part 2 contains everything that a surgical nurse should know, and assumes a certain intelligence on the part of the student nurse. The most careful description of surgical supplies, the manner in which they are prepared, used and handled, the minutest details of the nursing portion of all gynecological procedures are here given. The position of the patient, the arrangement of the room, the various problems that arise during operation,—these and other important things are discussed in an intelligent and interesting manner. The details of vaginal examination, operation and after treatment, as they apply to nurses, are beautifully given.

Part 1 presents an entirely different sort of problem to the reviewer. Here we have a detailed discussion of the anatomy and physiology of the normal pelvic organs, as well as a study of the bacteriology and pathology of all the known pelvic diseases. Those doctors who assume that a nurse should be a nurse only, and who think that the student nurse should not have the same studies that a medical student has, will surely be disappointed with Part 1 of this book.

We would suggest that Part 2 be made part of the regular teaching scheme of the student nurse, while Part 1 be reserved for postgraduate study, if the nurse has the time and inclination. With this reservation, we have a most superior book. W. C. G.

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ORIGINAL ARTICLES

MEDICAL EDUCATION*

PRESIDENT'S ADDRESS

FRANK G. NIFONG, M.D.

COLUMBIA, MO.

"I will keep this oath and this stipulation to recon him who taught me this art equally dear to me as my parents, to share my substance with him and relieve his necessities if required, to look upon his offspring in the same footing as my own brothers and to teach them this art if they shall wish to learn it without fee or stipulation and that by precept, lecture and every other mode of instruction I will impart a knowledge of this art to my own sons and those of my teachers and disciples bound by stipulation and oath according to the law of medicine, but to none others."¹

From this oath we learn something of the methods of teaching medicine in ancient times. The art of medicine belonged to a favored few in the tribe or nation. The priesthood were the usual practitioners because medicine was mingled with religion and superstition. Enticing as is the history of medicine and folklore, it would be purposeless to mention it except to contrast the beginnings with modern medical science. The ancient teaching, given only to the immediate disciples, was by lecture, precept, and example. Empiric knowledge was handed down from father to son. Æsculapius to his sons, Podalirius and Machaon and his daughters, Hygeia and Panacea.

This cumulative knowledge of experience became the art of medicine. It was thus that medicine, as an empiric art added to from time to time as experience and enlightenment increased, continued to be taught down through the ages. It is true that many notable discoveries contributed to the art. Harvey discovered the circulation of the blood in 1640.

Edward Jenner's triumph of vaccinating for smallpox came in 1796; and this was the forerunner of scientific medicine. Then, in the nineteenth century, came the immortal Louis Pasteur who laid the foundation of modern scientific medicine. On the foundation laid by Pasteur has been builded the structure of modern medicine, and this all in the last half century. Indeed, in this time progress has been greater than in all the previous ages. Progress,—yes, one triumph after another, medicine keeping well abreast with all other sciences in their rapid advances. Many of you, my hearers, have been privileged to see this wonderful evolution of medicine during your professional careers.

And now has dawned the day of Preventive Medicine. When we consider these wonderful changes it stands to reason that the teaching must also change. No longer can dogma be transmitted from father to son, nor favorite disciple be taught what is "good" for this or that disease. One trained in the old "proprietary medical schools" must sense acutely the radical changes in undergraduate medical education. These changes are due to the rapid increase in medical knowledge. The fact is medicine has now become truly scientific as well as empiric. Naturally, the old schools had to go. In the passing of the old schools some things have been lost which it would be well to regain. We would not have again the old slipshod methods of teaching, of course, in place of the better, more intensive, scientific methods. However, these old schools of the better type were manned by groups of men, doctors of the old school type, who were idealists and superlatively ethical; many of them were inspirational leaders. Today our schools are notably lacking in the teaching of ethics while in the better old schools every day we had our daily dozen. You have often heard it said that ethics should be left alone or should come entirely from family training and through example. Service is the purpose of medical education,—service to our fellow-men. Without character and a high sense of duty and the maintenance of the sacred relationship of the true physician,

* Read at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

1. From the Oath of Hippocrates.

worthy service cannot be rendered. A physician without character is a dangerous citizen. Why should not that be taught intensively which, as much or more than any other qualification, enables a doctor to render service? Why should we neglect the one most important thing that has distinguished our profession as noble and altruistic? We cannot well afford to do that. Teaching ideals of service is all the more important in this age of rapacious commercialism and the sabbathless pursuits of fortune. No longer may we practice medicine as individuals, as did the old family doctor. There must be groups or specialties, for no one may compass all medical learning. With these conditions have come new economic problems and some attendant evils, such as division of fees and dishonest medical and surgical service. I mention these things with shame, but only for the purpose of accentuating the necessity of teaching ethics in our universities. We should make more strenuous efforts to maintain our old standards of service.

It is marvelous, the gain in knowledge imparted to a student now, compared to the old days. Our graduates now are sent out with a mass of information undreamed of by our graduate of forty years ago. Is it too massive? Should there be more wisdom to apply the science we may have? May not the art of Laennec and some other older valuable procedures be overshadowed by an excess of laboratory and new science? I would not minimize the value of the laboratory procedures, for they have contributed much to the science of medicine. I simply would not have them overshadow the old and tried clinical art which has rendered so much service to mankind. Let both be measured by the test of service. Yes, the students are full of information. Crammed full. Some are specialists at commencement. The old timer has difficulty in understanding just how one may become a satisfactory specialist without a broad general medical experience. That was the old way of specializing.

I wonder if all our medical schools are teaching the fundamental subjects as intensively as was done in the old schools. We could not be overtaught in anatomy and physiology. Our universities now have many full time teachers who are not doctors of medicine. Their point of view is not the same as that of the practicing doctor of medicine, and the subject is taught as an abstract science without thought of rendering service. May we not be losing something here in our university medical education? It is axiomatic that we must have a good foundation if we would rear a substantial structure. The neglect of the fundamentals and the cramming

of students with specialties must be erroneous. Let the student's commencement be indeed the beginning. Let him build his knowledge on a rock foundation. If he is properly trained to think he will be all right. How else have we secured our many outstanding senior medical and surgical men of today?

Another curious and absurd thing to me is the practice of some in some of our schools and universities of putting undergraduate students into research work. Research seems to be an enticing word. Why an immature and undeveloped student should be put into such work when he is not fundamentally educated seems little short of folly and a great waste of time, as well as an injustice to a student. Research is fitting for the mature graduate student who becomes interested in particular problems and has the zeal to carry on.

What relation has the state to modern medicine and medical education? Now that the old type medical school has passed we have state and privately endowed medical schools. There are eighty of them in this country and nearly twenty thousand students,—with proper distribution, enough both of schools and students to render service. The cost of medical education and the distribution of the medical men over the country are problems in which the state should be concerned. In this country, we have accepted the Jeffersonian idea of higher education. Our state universities and higher educational schools supported by the state have become universal. Our universities are giving these higher technical and professional trainings and in return valuable service is rendered the state. It is a wise and beneficent policy. The engineer, teacher, lawyer, agriculturist, and publicist all render service to the state and contribute to the general welfare. It is economically sound and spiritually wise. The science of medicine is also taught in many of our state universities. For that service from the state medicine is pleased to return as much and more than any other profession for which the state furnishes education. A challenge to this statement? A mere glimpse of the history of modern medicine will quickly prove the fact to any reasonable individual. From the time Pasteur staged before the scientists of France the great anthrax drama at Melun down to the present day has been a triumphal advance in the science of medicine. In the last fifty years, in our own time, has taken place this marvelous development; the discovery of the causes of our endemic diseases and the great plagues and the conquering of them. Romance! It needs the pen of a romanticist to relate the truth merely,—the story is much more enticing than the most engaging fiction ever written.

Tuberculosis, typhoid, typhus and malaria; the great plagues, smallpox, bubonic, cholera, yellow fever, and others have been conquered. Men, such men as Pasteur, Lister, Koch, and Klebs,—can any economic value be estimated of the service they have rendered the world? What of Reed, Carroll, Agramonte, Lazear, and old Dr. Carlos Findlay? What proud history for these United States! All southlands made habitable, healthy, and safe for white men! Gorgas and the Panama Canal and world commerce! Glorious triumphs of modern medicine without which the progress of civilization would stand still! Understand and know these facts and no one will ask if the state owes anything to the science of medicine; and no one will deny that the state should support this science which has made such large returns in terms of benefits to the general welfare.

Should our state of Missouri provide for medical education? Has law, agriculture, engineering or any other profession more right to support? The motto for the State of Missouri is "The Welfare of the People Is the Supreme Law." It might well be rendered the "health" of the people, for without health happiness cannot exist. In the last twenty-five years we have raised the expectation of life ten years above what it was before this century. The control of typhoid fever and malaria alone has more than repaid Missouri any expenditures she may make in educating doctors and conserving health.

Now, this is our complaint against our good State of Missouri. The state is shirking her duty in not completely training men in medicine. She makes a gesture, it is true. The University furnishes two years training and then sends her students to other states and other institutions wherever it is possible for such orphans to be cared for. She is a marsupial alma mater. Is this not a pitiful situation and is there not cause rather for shame than pride? Our State Medical Association has repeatedly memorialized our legislature and endeavored to interest friends of the University in this matter, with indifferent success. Has not the time come when we should demand insistently that medical education be established in full, as it should be by the state? It is nothing else but a matter of right and justice, for value received, and for services rendered, a debt. The cost of medical education has become almost prohibitive for our poor sons unless the state does her duty. Every year there are fewer country physicians. Our students go to other states and usually do not return. The cost makes it difficult for them to return to the country. Our rural population, the very peo-

ple who feed us and the world, suffer for lack of trained doctors. I am convinced that the rural medical situation would be much less acute if the state did for the medical profession as much as she does for agriculture, law, or engineering.

Now that medicine is a science as well as an art, not dogma alone but established truth, there is no longer need for the knowledge to belong only to a sacred priesthood of practitioners. Medical truth may and should be taught to any one who desires to know. Indeed, medical knowledge must be imparted to all educated people if public health is to be improved and raised to a higher standard. The individual doctor, as the word doctor signifies, should function as a teacher of health.

There is now an awakening to the necessity of health education in our schools. Some of the more progressive and farseeing school executives are sensing this need. The teaching of some of the fundamental subjects in our secondary schools, beginning with biology as a basis for health education, would contribute to general culture and education as much as the study of the humanities. The contribution to the welfare of the individual in improving personal health conditions would be still more valuable. The leaven, for the promotion of clean and healthful living, implanted in every community, the source from which our students come, would be of incalculable value to all. Medicine or health education should not only be taught in our secondary schools, it can be given in the grades and even primary schools. By visual education even a little child may see the truth and learn that a fly may carry infection and sickness result. The truth learned so early will not be destroyed in later life by fallacious cultism. Our state and local government must do their duty in promoting the general welfare by such teaching in all of our schools. This is the kind, the only type of "state medicine" we desire. We do not wish some "panel system" or contract practice which destroys all initiative and individuality of the doctor. Let the state serve all her people by educating them in the principles of health in her primary grade and secondary schools as well by giving a finished and truly scientific medical education to her doctors, who will go out all over the state serving as teachers of health and leaders in the community where they live.

Again, let us have a "state medicine" authoritatively given us through extension education in the medical department of our State University. Let us have a service similar to the extension work in our department of agriculture; education given by bulletin, popular lectures through the press,

and other methods of publicity. Why should not the State University send an expert and an educator to a community with typhoid fever as readily as to a community with hog cholera? We wonder sometimes if the "welfare of the people" with the state begins with the welfare of the swine. We are convinced that the people would recognize the value of medical service as quickly as service in agriculture.

These are some of the methods by which the state may promote the general welfare of her people by disseminating the truth. Manifestly it is a duty as well as an opportunity. In this program our profession should be the leaders. We should not be exploited by the numerous lay societies now forming. Many of these well meaning people realize the need of better health teaching but most of them are not fitted, as are medical men, to lead in such work. We are fitted by education to guide in these matters; and we must not shirk our responsibilities. As a true doctor of medicine and a public spirited citizen your duty is to your community. In every community the medical men should guide all health activities and keep them safe and sane. Eliminate the emotional, destroy fallacies, teach truth, prevent duplication of efforts, organize and synchronize all public health efforts. Much educational help may come from our county health services; and these organizations should be kept in their proper sphere. They should not be allowed to usurp the doctors' functions and become obnoxious, interfering organizations. Their most important function should be educational. In every country school these units may serve best by teaching hygiene and preventive medicine. This should be practically the limit of the state medicine, with laboratory assistance to practitioners in remote rural communities.

Medical legislation—our *bête noir*. Constantly we are accused of having a medical trust and any repressive legislation is immediately attacked as being a measure for our pecuniary benefit. One of the most difficult things, it seems, for a layman to understand is why any organized body of men should work against their own financial ends. Now, we cannot explain that to a sordid mind, but it is a fact nevertheless. This sort of altruism has been bequeathed us since remote times, and it well shows the strong influence of idealism in the world. Only by education of the laity in the truths of medicine can such conduct be understood. In legislation we are pleased that this As-

sociation has practically adopted a policy which is most tolerant and democratic. We would ask no favors of the state that any other individual, society, or cult may not enjoy. We would have, though, a standard of education and intelligence for all groups and cults who would practice any form of the healing art. The standard would require education in biologic truth and the fundamentals of health science. If the chief function of our state is to promote the general welfare, she must protect her people from plague, from infections, from ignorance.

Manifestly it is the duty of our state and the medical profession to protect the people from disease and the spread of plague if possible. With a single standard of intelligence and equal requirements in knowledge for all, cults and fads would not long menace the health and general welfare. Let truth prevail. Let those who care for the health of the people know the truth. Let the state require all who would practice the healing art know the science of biology. They must know anatomy and physiology, know the human body before caring for it in any way. Let us have "state medicine" then, if it be this kind.

16 S. 10th Street.

FRACTURES OF THE JAWS*

W. T. COUGHLIN, M.D.

ST. LOUIS

I want to pass this specimen around to show how impressions of fragments can be taken; you reconstruct the jaw, and then make the splints, fashion them, see that they fit, and then finally put the fragments into them.

All that was said this morning concerning fractures in general can be pretty well applied to fractures of the jaw. But it seems that when the general practitioner is confronted with a fractured jaw, he begins to feel afraid and thinks, "Now this is something that is not quite like what I am used to" and as soon as he lets fear come in judgment makes its exit.

There isn't any underlying principle governing the treatment of those fractures that differs from the treatment of these. The first thing to do is to make a correct diagnosis, and in order to get the correct diagnosis one uses his hands and his eyes and he has also the X-ray. He must get his fingers on the parts and feel as well as he can, looking for the points of greatest tenderness just the same as

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

in fractures elsewhere. If there is a recent fracture there is tenderness over that point. He elicits unnatural mobility just as in fractures elsewhere.

Then the X-ray comes when the first examination is over. Unless someone is taking that X-ray who knows how to pose the patient for X-ray of the jaw the case can come to grief. Fracture can exist without very much displacement even in a thing that wags so well as the lower jaw. If fracture exists without much displacement it can result in a certain amount of disability or serious impairment of function, unless it is properly treated.

The X-ray picture should be one that is taken by some person who understands photography, the anatomy of the part, and the physics of light. Not much more than that is necessary.

Having discovered where the fracture is, then comes the question of treatment. First it must be reduced. It *can* be reduced, it *must* be reduced. There is only one fracture about the jaw that I think should not be reduced at once and that is a fracture which has a very bad reputation; it is known as a separation between the cranium and the face, a cranio-facial separation. These are usually easily diagnosed by putting one hand on top of the head and grasping the face in the other hand and if such a fracture exists one can find unnatural lateral mobility between the face and the cranium. If that fracture is reduced at once, it will probably lead to meningitis and death. Consequently, delayed reduction is preferable there rather than immediate reduction. In fractures elsewhere I believe that immediate reduction should be the rule.

Of fractures that occur in the upper jaw, those of the gingival process, of the part of the jaw that bears the teeth, need nothing extraordinary for their diagnosis and for their retention.

In all fractures involving the mouth and



Fig. 1. Splint for upper jaw. The dental colleague takes an impression of the patient's teeth and makes a cast or swaged replica of this in metal (gold, silver or alloy of various kinds). The wire arms are made of strong heavy brass or steel piano wire soldered to the sides of the cast impression.



Fig. 2. The splint illustrated in Fig. 1 has been fastened to the teeth in the upper jaw. The cap, made of canvas to fit the head very snugly, is fastened to the scalp with glue. Elastic traction is applied as shown.

teeth it is a splendid arrangement to have a dental colleague with you, and to have a dental colleague with you does not mean that you shall turn the case over to the dental colleague. You must not do that. You have training in surgery and he has not. He can make splints. With two of you together, you in authority and he working subject to your orders, you can accomplish what you set out to do very likely.

The dental colleague takes impressions of the teeth and casts the splints as shown by the pieces passed around. He can cast a part or the whole of the jaw at once. When the jaw is fragmented he takes impressions of the teeth in the various pieces or fragments and then he assembles these in his laboratory. He can reconstruct the jaw in plaster because he can take also an impression of the normal jaw with which the fragmented one articulates. Then he makes a gutter splint that will cover all the teeth in either jaw when these are in normal relationship. Now it becomes your duty to help him assemble the patient's fragments and get the teeth into the gutter splint; thus reduction is made and he cements that splint in place on the teeth. He does the same on the upper jaw and he permanently opens or closes the mouth just as you wish, thus accomplishing fixation.

It is not always necessary to have a dental colleague. If you feel sure of yourself and if the patient has teeth in the fractured area and teeth in both jaws, then you can resort to wiring the teeth together. It is a very simple procedure and Figs. 6, 7 and 8 show how it is done. It is of very great value, this procedure



Fig. 3. The gums and teeth are reconstructed in plaster by the dentist and placed on an articulator. He has the normal jaw for his pattern. He can place his reconstructions of the teeth of the fractured or fragmented jaw in proper relation with those of the upper jaw and they will then be in proper relation to each other. They are cemented together in this position and he can then take an impression of them and make his metal replica of this. Such replica is called a "gutter splint."

of wiring teeth together. One wires only sound teeth. Use silver wire (any noncorroding wire will do), No. 26 or 24 is about the right size. Be sure the wire goes round the neck of the tooth. Wire two below to their corresponding two above on either side of the fracture and wire two more (to their fellows in the upper jaw) on the other side. Cover the wire ends with gum or gutta-percha to protect the mucosa.

If it is not done right it will lead to loss of teeth but if it is done right it won't do any harm and that is one of the first principles, not to do any harm.

There is a good deal to remember about the development of osteomyelitis and all its train of sequelae, and osteomyelitis is very prone to develop in fractures of the lower jaw because the bottom of the mouth is less clean. If the fracture occurs in the body of a tooth bearing jaw it should be considered a compound fracture. Treatment of compound fracture here is like treatment of compound fracture elsewhere. First diagnosis, then cleansing, then approximation of the parts and lastly immobilization. There is usually *no operation to be done*, no cutting down on the broken ends of bones and wiring them together. That is very seldom necessary whether the patient has teeth or not. It is nearly always possible to reduce and retain without wiring the bones together.

Patients who have fracture in the tooth bearing area of the lower jaw, a few days after the fracture sometimes show a good deal of swelling and tenderness at the site of the fracture. If the practitioner will *then* act *promptly* he may prevent that patient from having osteo-

myelitis with its necrosis and nonunion, loss of substance, deformity and disability. To act promptly is a very simple matter. He should establish drainage. I don't advocate cutting down on all the fractures of the lower jaw immediately, but within three or four days, *if there is tenderness and some swelling* at the site of the fracture, I do believe in cutting on the fracture,—not down but up. Cut upward from below right to the site of the fracture. You will see that there will be some dirty thin seropurulent fluid escape from the site of the fracture and it often has a bad smell. It should come out. This should be done early. A large wound is not necessary. If one acts at once and without delay cuts to the site of the fracture, takes the handle of the knife and runs it close to the bone on the outer and on the inner side of the bone at the fracture site you need not put in a drain at all,—at most a bit of rubber suffices. You have opened a channel for the poison to come out; it *will* come out and there won't be any osteomyelitis of the jaw.

I have never seen osteomyelitis of the jaw occur after a fracture that was properly treated and given proper attention at the earliest sign of infection, which is inflammatory exudate with tenderness occurring below the jaw at the site of the fracture. Wait three or four days? Yes, and let an abscess form there? Then it is very probable that osteomyelitis *will* occur, because then it perhaps will have spread inside the canal of the bone and the opening that I have spoken of won't suffice.

A mouth smells worse than a cesspool if it is not properly taken care of, and if it is properly taken care of there won't be any odor at all. It can be done with a mouth wash, gargle, and brushing the teeth. You can't get at the inside but you can get at the outside with the brush. If the mouth wash is used every two hours by day and every three or four hours by night, waking the patient up to do it, there won't be any odor or stench from that mouth. If the patient is not so treated he vitiates the air he breathes, he swallows a good deal of filth

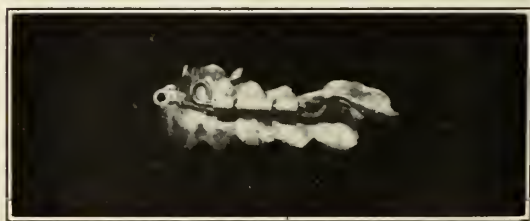


Fig. 4. Side views of gutter splints for upper and lower jaws showing how they lock together to keep mouth closed. Sometimes the dentist uses little hooks and closes them by winding wires around the hooks.

from the bottom of his own mouth and his health deteriorates and his appetite fails as a consequence. Besides that other patients complain of him as a nuisance.

The patients have to be nourished. That is something that we lose sight of. The question of nourishment is an important one. It is very easy to do. I don't believe anybody will now advocate the knocking out of a patient's teeth in order to allow somebody to pour in food between the teeth. Usually if a patient can get fluid inside of his lips he can get it past his teeth and swallow it. Those who have difficulty in swallowing can be nourished by passing a tube through the nose down into the esophagus. They are kept filled up as much as we possibly can keep them so and in that way the healing occurs without much trouble, because nutrition is maintained.

Practically all of the nonunion that I have seen has depended on loss of bony substance, usually at the time of the accident, but also loss from osteomyelitis. In accidents that railroad men run across it is highly probable that loss of bony substance exists frequently. If loss of bony substance exists in the lower jaw or in the upper jaw it interferes with the chewing of the food. If the loss of bony substance is ignored when one is reducing the fracture, and if one puts two fragments together that should not be together, he sacrifices function for the sake of getting union, and the patient might just as well have non-union because in either case he has non-function.

If the fragments are held in their proper relation to the upper jaw, a bone graft can be done and proper function of the jaw restored as soon as the wound has healed. Of all the places where bone grafting is done, there isn't any place which gives such

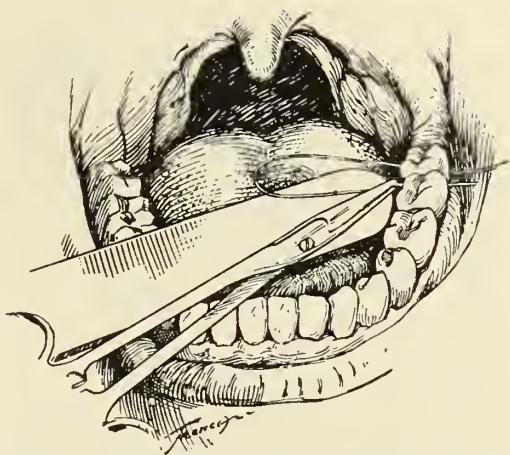


Fig. 6. Showing how the wires are passed from within outward. The first wire placed is at the farthest back. The best wire is the largest silver that can be passed. Silver wire is best but it breaks easily while twisting.

beautiful results as bone grafting in the lower jaw. There isn't any place in the body where it is so easy to do. I know, I've done it everywhere else as well.

If a fracture occurs at the condyle at the lower jaw it is altogether likely that the patient's chin will swing to the affected side as he opens his mouth. For fracture up in the condyle or in the neck I believe a permanent dressing should keep the patient's mouth open. A fracture just above the angle of the jaw can lead to a good deal of displacement of the proximal fragment. Figure 3 shows how that displacement can be overcome.

Fractures occur sometimes on both sides of the lower jaw at the same time and the midfragment drops down. That kind of fracture can also be best treated by keeping the patient's mouth blocked open and,

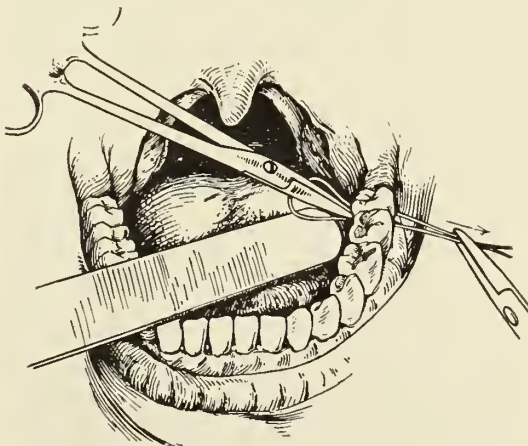


Fig. 7. The wire is being drawn "home." The point of the artery forceps is held against the crown so as to direct the wire against the neck of the tooth. The wire is drawn tightly around the neck and then twisted.



Fig. 5. Gutter splint made for the lower jaw where fracture occurs with loss of substance. This kind of splint is used by the author to hold the fragments of the lower jaw in proper relationship when the arch has been removed for cancer.

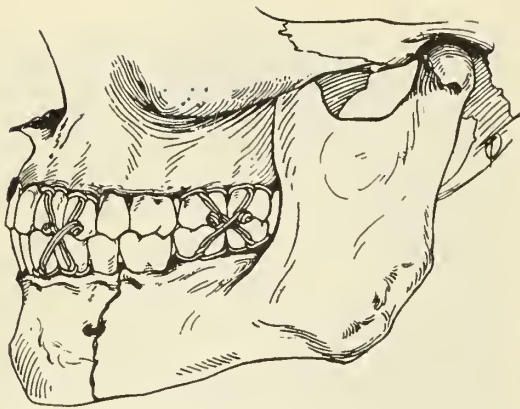


Fig. 8. Notice two teeth above wired to two teeth below behind the line of fracture; the same in front of the line of fracture. A picture of the other side would show two above wired to two below about the middle of the jaw. Note that the teeth nearest to the fracture line are never wired.

whether he has teeth or whether he hasn't, it can be done if you have an ingenious dental colleague.

It is altogether likely that you can, if you have a good dental colleague, arrange some kind of vulcanized splint to put in his mouth and hold it open. It has been my experience with reduction of the lower jaw fracture that if the mouth is held widely open the fragments tend to come more easily into normal apposition with each other than they do when the mouth is closed. That is one of the arguments used by the man who favors always blocking the mouth open. I don't favor *always* blocking the mouth open. It is uncomfortable and it is not always necessary. The patient who has his mouth blocked open drools his saliva, has to wear a bib, and also has difficulty in swallowing. The only way he can get all that is coming to him is by lying down on his back when he swallows.

When teeth interfere with reduction then and then only do I think the teeth should be removed at the time of the fracture. But I believe that if teeth are loose they should be left in place (unless they interfere with reduction) for about three weeks, and if at the end of three weeks the teeth are still loose, they should be taken out at once. I don't think that loose teeth should be allowed to remain in longer than four weeks. Why not take them out at once? I have seen loosened teeth tighten up and remain and heal in properly; also I have seen teeth that were loosened help with the regeneration of bone. If the loose tooth is left longer than three weeks I think it is likely to become a cause of nonunion.

Metropolitan Bldg.

CONGENITAL ABSENCE OF LUNG*

REPORT OF A CASE

HARRY M. GILKEY, M.D.

KANSAS CITY, MO.

Complete absence of one lung is a rare condition.

The case here reported was diagnosed before death. All other cases that we were able to find recorded in the literature were diagnosed at autopsy.

In reviewing the literature we find Ellis and Levy¹ have reviewed 19 cases of congenital absence of one lung. Two cases of absence of both lungs have been reported. Of the 19 cases of absence of one lung, 13 were of the left and 6 of the right side, showing a predilection for left sided pulmonary aplasia that is not satisfactorily explained on anatomical grounds. Interference with blood supply in early embryonic life is supposed to be the cause of all cases.

Anomalies other than those of the blood vessels directly concerned were present in some of the cases but not in others. In all of them the chest externally was symmetrical, the opposite lung, the heart or fluid taking the place of the missing organ. In one case part of the intestines were in the thorax.

The duration of life in cases of absence of one lung is usually short, but this probably depends upon other circumstances.⁴ The condition is however not incompatible with adult life.

The diagnosis of aplasia of the lung may be substantiated by roentgen ray findings. If the condition is acquired the thorax usually sinks in while in congenital cases,

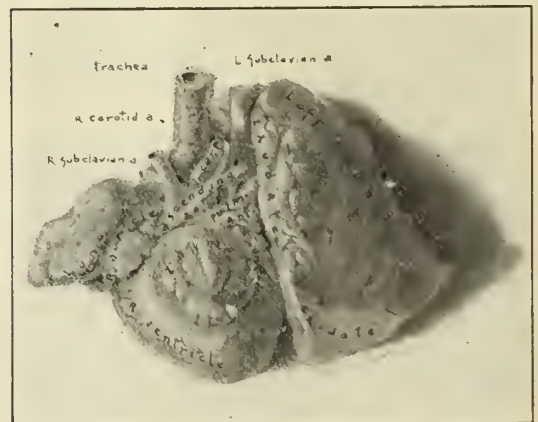


Fig. 1. Congenital absence of lung.

*From Pediatric Service of Children's Mercy Hospital, Kansas City, Missouri.

or real aplasia, the other lung hypertrophies and prevents sinking, hence the chest is symmetrical.

REPORT OF CASE

Congenital absence of right lung and right radius. Patient a fairly well developed and nourished boy, 6 months of age. Admitted to Children's Mercy Hospital in respiratory distress April 20, 1923. Previous admissions, Jan. 14, 1923, Feb. 22, 1923, March 23, 1923, having similar symptoms.

Asthmatic rales were heard over the left side. Over the right side, breath sounds were absent. X-ray examination of lungs showed right chest opaque throughout, mediastinum and trachea entirely to right of median line. Unable to make out lung tissue on right side. Good aeration of left chest. Right forearm showed congenital absence of right radius. Usual stimulation given, oxygen, etc. The given respiration ceased shortly after admittance.

615 Argyle Building.

REFERENCES

1. Ellis, A. G.: *Am. J. M. Sc.* **154**:33, 1917.
2. Schmit, H.: *Arch. of Path. Anat.* **134**:25, 1893.
3. Allen, F. W., and Affelbach: *Surg. Gynec. Obst.* **41**:375, 1925.
4. Goehle, O. L.: *Foreign Body in Bronchus of Child With Congenital Absence of Other Lung*, *Am. J. Dis. Child.* **35**:733, 1928.

INJECTION TREATMENT FOR HEMORRHOIDS

FREDERICK B. CAMPBELL, M.D.

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The phrase "injection treatment for hemorrhoids" is frequently seen in recent literature but the principles of its use and its indications are not known by the general profession. While so-called "injections" are used to a varying extent by most proctologists, and its most successful use will be by those who specialize in anorectal diseases, yet there is no reason why the method, when indicated, should not be used by any one capable of operating on hemorrhoids. On the other hand, I do not believe it should be undertaken by one who is not familiar with the principles of modern anorectal surgery. This treatment is distinctly indicated under certain conditions, but is often denied the patient by our ignorance or bigotry. The surgeon's familiarity with both methods serves best the interest of the patient. While not dangerous, neither is the injection treatment harmless unless applied with judgment and care.

By injection treatment is meant the injection into the interstitial tissues of various chemicals which have the ability to stimulate the formation of connective tissue. The irritation must be sufficient to cause a proliferation of the fibrous stroma

to such a degree that the veins are occluded or firmly supported and the mucosa held in place. The method is therefore an imitation of Nature's own method with the added virtue that the reaction may be forced to a desired point, while Nature usually falls short. The pain caused by the injection of an irritating solution below the mucocutaneous line, where the nerve innervation is of somatic origin, precludes its use here. Its application must therefore be confined to conditions above this line in which supportive fibrous tissue is needed, namely, (1) internal hemorrhoids, (2) mucosal prolapse.

By common usage the term "hemorrhoids" has come to imply pathology which may be briefly summarized as follows: hemorrhoidal veins in which there is an inherent weakness, an elevated venous pressure from a loaded bowel, a sliding mucous membrane, pelvic tumor, hepatic or other abdominal diseases, or some combination of these which has caused degenerative changes in the vein walls. This is followed by dilatation, tortuosity, and a physiological attempt to compensate for the weakness by the replacement of the elastic tissues with an excess of fibrous tissue. The trauma and low grade infection to which these veins are subjected due to their anatomically unfortunate location, at first exaggerate the pathology but later the scar tissue resulting from this inflammation may be a factor in Nature's attempt at spontaneous cure. While many cases with or without medical treatment proceed to a symptomatic cure, in the ones that eventually come to us the odds have been too great and the disease is progressive. Let us bear in mind then that fibrosis is Nature's solution of the problem.

We recognize structural weakness which may result in hernia, varicose veins, visceroptosis, etc.; and we must likewise remember that the supporting structure of the rectal mucosa and anal skin may also give way. Perianal skin tabs may be produced by the anal skin sliding downward from lack of support or being pulled down by a large thrombotic hemorrhoid. This is evidenced by the fact that the inner side of the skin tab presents the smooth pinkish modified skin of the anal canal. Prolapsed anal skin presumes a relaxation of the rectal mucosa above. Skin tabs not presenting this modified anal skin are of inflammatory origin. Surgery is usually indicated in such cases.

Before hemorrhoids can prolapse through

the anal canal there must be relaxation of the rectal mucosa, but prolapsing rectal mucosa is not necessarily accompanied by hemorrhoids. The resulting circulatory as well as fecal stasis however is an important predisposing cause. We should not get the cart before the horse by diagnosing all such cases as hemorrhoids. The differential diagnosis may have a bearing on the treatment whether surgical or otherwise.

An important factor in constipation of the rectal type is a relaxed mucous membrane which piles up in the ampulla of the rectum. The accumulation of mucosa with its resulting venous congestion not only acts as an obstruction at "the neck of the funnel" but also blunts the rectal sense by the constant feeling of fullness. Maintaining the mucosa in its proper relation to the muscularis is of the greatest importance in reestablishing the normal rectal reflex. The failure of some hemorrhoidectomies to relieve backache and constipation may be attributed to this oversight.

INDICATIONS

Advanced cases do better when small portions of the hypertrophic mucosa are removed but in many cases the scar from injections is quite as satisfactory as that from operation for holding the mucosa in place.

Internal hemorrhoids, best described as the mulberry type, are ideally suited to this treatment and injection or operation may be left to the convenience of the patient. Bleeding and prolapse are controlled in one or two treatments. Beginners would do well to limit the use of injections to these moderate and simpler cases until the field of usefulness may be broadened somewhat with further experience.

Marked infection and a spastic sphincter are contraindications to injection, but proper preparatory treatment will make it possible in certain cases. In those cases complicated by cryptitis, papillitis, fissures, ulcers and external hemorrhoids operation is obviously indicated.

In the anemias or hepatic and cardiorenal cases in which frequent catharsis is used, bleeding and prolapse may be exhausting and painful. Operation usually being inadvisable, injections may be of the greatest value as a palliative measure.

The occasional case which suffers a recurrence following an operation done in the age of rectal plugs, forcible dilatation, and excruciatingly painful bowel movements, is skeptical when we tell him that his postoperative course can be made quite

comfortable. In suitable cases injection treatment solves this problem.

When there is considerable sagging of the mucosa above the hemorrhoidal area injection should be made into the relaxed submucosa. While great improvement may be expected in bowel function and considerable relief from the feeling of weight and incomplete evacuation, the majority of such cases will do better with properly done surgery.

The ambulatory feature of the treatment is of economic importance in that a hospital bill is saved and the usual duties are continued. It has been used extensively in the outpatient department of the Kansas City General Hospital with considerable saving to the city in hospital days and also reserving the beds for more serious cases. The very obvious advantages of the treatment appeal to those afflicted so that we must guard against our enthusiasm overreaching good judgment in the selection of proper cases.

TECHNIC

From the large number of solutions which have been tried from time to time since the first recorded use of this method in 1871, but two are now popular with proctologists. The conservative English seem well satisfied with 5 to 10 per cent. solutions of phenol in glycerin or olive oil. Five per cent. quinin urea HCl is more popular in this country where it was introduced by Terrell, of Richmond, Virginia. In my experience the anesthetic property of quinin urea makes it less painful to inject than phenol. However, 10 per cent. phenol in equal parts of glycerin and water is used when there is an idiosyncrasy to quinin.

The hemorrhoid selected for treatment is best exposed by a Hershman, Martin or Montague anoscope. The solution is injected with a tuberculin syringe and a three-eighths inch 25 gauge dental needle on an extension. The advantages of the tuberculin syringe are, accurate dosage and slowness of injection. A small caliber needle minimizes the trauma and leakage.

The needle is inserted as nearly as possible into the center of the hemorrhoid and 10 to 20 minims of solution slowly injected. The safe point to stop the injection is at the slightest blanching. More solution carelessly introduced may cause pressure, necrosis and sloughing, which is the present false conception of the method by many physicians.

Should the first few drops of solution

cause the surface to turn gray, it is being injected too superficially and should immediately be stopped, then reinjected properly at a future time.

One or two hemorrhoids may be injected every third or fourth day until all are treated, then once a week until the varicosities are obliterated and the mucosa is held in place. Each hemorrhoid requires from one to three injections, depending upon the size and the amount of solution used. Within a week the mass is decidedly smaller and the blue color has given way to a healthy pink.

No preparation is necessary. Enemas and laxatives merely make an aqueous suspension of the intestinal contents which soils the field and favors infection. After care consists in encouraging soft formed stools with mineral oil if necessary.

COMPLICATIONS

While serious complications from this form of treatment have been reported its dangers are exaggerated. When we consider the great number of such treatments given, a large per cent. by incompetents, the accidents are surprisingly few. Even so, it should not be undertaken lightly, as accidents may occur here as in other procedures where asepsis and good judgment are prerequisites of success.

A slough denotes faulty technic. Most of the accidents in my cases occurred early in my experience and were due to superficial injection or leakage about the puncture wound. These healed rapidly, without infection and without discomfort to the patient.

When the solution is deposited in a large hemorrhoidal mass there is little or no pain, but in small hemorrhoids or in the submucosa, as in the case of the prolapsed mucosa, aching pain is produced by the local tension upon the muscularis resulting from exudate of fibrin about the foreign substance. This aching usually begins in less than half an hour and lasts less than an hour after injection; but it may vary considerably.

The variation of the individual in his production of scar tissue in response to the chemical irritant is a factor of uncertainty. The number of treatments must therefore vary and in those cases with poor reaction there is a tendency to recurrence which is especially true in prolapsus. This tendency follows in surgery also but to a lesser degree.

SUMMARY

1. The injection treatment is an ethical,

practical procedure, deserving a better and wider understanding among the members of the profession. Familiarity with its principles, indications and application, as well as its limitations, will aid in shifting public confidence from the advertising quack to the place where such confidence should rest.

2. Injections are curative in properly selected cases of internal hemorrhoids and moderate mucosal prolapse, and a valuable palliative measure in other cases where operation is refused, postponed, or contraindicated.

3. Surgery continues to be the ideal treatment in the majority of cases.

1808 Federal Reserve Bank Building.

LEUCOSARCOMA OF THE ORBIT

REPORT OF A CASE*

CARL T. EBER, M.D.

ST. LOUIS

Of the malignant tumors of the orbit primary sarcoma is the most common,¹ yet it is a comparatively rare disease when one considers the fact that in over 137,500 patients seen by Fuchs, those suffering with sarcoma of the choroid (which is the most frequent of ocular sarcomata) constituted but .07 per cent. Buchanan² reported a percentage of .03 of ocular sarcoma among patients treated at Glasgow Infirmary. Furthermore, leucosarcoma occurs much less frequently than the melanotic type. The comparative rarity of the disease has prompted me to report this case, with pathologic findings.

The origin of the various types of sarcoma is, of course, in the tissue derived from mesoblast. As to location, sarcomata are usually classified as intraocular, epibulbar, and orbital (i. e., extrabulbar). Collins and Mayou³ state that "sarcoma of the uveal tract, although the most common form of new growth arising within the eye, is a comparatively rare disease." In discussing the epibulbar variety, they say, "the tough fibrous tissue of the sclerotic and cornea does not readily become invaded; and until it does, the growth will be found to move with the conjunctiva on its surface. Intraocular invasion is rare, but has been met with, the extension backward taking place along the track of the anterior perforating vessels or the canal of Schlemm." They regard the extrabulbar type as a "rare

* Read before the Ophthalmic Section of the St. Louis Medical Society, December 14, 1927.

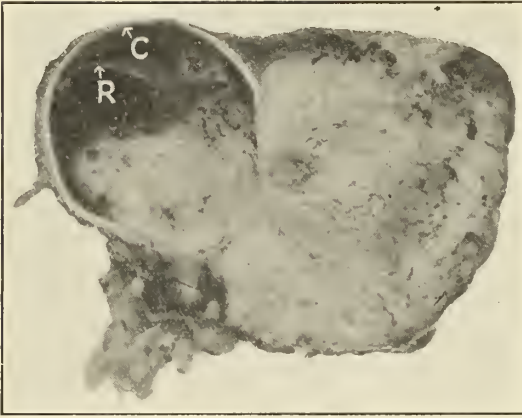


Fig. 1. Horizontal section through tumor mass and eyeball showing, C, cornea; R, detached retina.

affection." "The periosteum, intermuscular septa, the endothelium of the blood and lymph channels, the sheath of the optic nerve, and the lacrimal gland have all been located as the primary seat of this form of growth." The neighboring sinuses constitute another source of origin. Kerschbaumer⁴ reports the origin of the growth in his 67 cases as follows: 7 diffuse, 9 epibulbar, 2 in the iris, 8 in the ciliary body, 41 in the choroid.

In the case about to be reported, all the intraorbital structures, including the eyeball and the orbital wall of the posterior ethmoidal sinuses, were invaded by the malignant cells. From a study of the specimen the origin of the neoplasm could not be determined because of its extensive proliferation.

In many of the cases observed a history of injury was obtained and considered a possible cause. Thus, 11 per cent. of Fuchs' and 5 per cent. of those reported by Lawford and Collins had an antecedent history of ocular trauma. My patient attributed the loss of vision and subsequent tumor to injury caused by a hot rivet striking the eye. The value of such assertions, of course, is always questionable.

REPORT OF CASE

On October 28, 1927, N. T., age 50, Russian laborer, consulted me because of a large protruding mass from the right orbit. He stated that on about the 22nd of August, 1924, he was struck in the right eye with a hot rivet while employed in a foundry. For this injury he was treated three times by an oculist. The eye became blind and this was believed by the patient to have been caused by the accident. About in April, 1927, he said "the eye began to get big." The mass continued to grow rapidly but he denied ever having had experienced any severe pain in or about the eye. When the tumor had grown to such proportions as to pre-

vent not only closure but even movement of the lids, he covered the lids and the protruding mass by pasting court plaster over them. This practice undoubtedly caused much of the irritation and mild pain of which he now complained. His right eye did not give him any discomfort.

There was nothing of importance in his family or his past personal history relevant to his present complaint.

The general physical examination by an internist revealed a robust, well developed, well nourished, rational male, in no apparent pain or discomfort. B. P. 128/76. A general physical examination was grossly negative.

The laboratory findings: Urine negative, radiologic examination of head negative, E. N. T. examination and transillumination of maxillary sinuses negative, blood Wassermann test negative, red blood count, 3,860,000.

Right eye: An irregularly shaped, highly congested and irritated mass, covered with edematous conjunctiva and apparently about 3.5 x 5.0 cm. in size, which stretched and pushed the eyelids considerably forward, partially presented in the palpebral opening. The lids were separated about 2 cm. The tumor felt soft, almost cystic in places, and several small areas were grayish-black in appearance. The eyeball was displaced upward and nasally and completely covered by the upper lid. By retracting the upper lid it was brought sufficiently into view to permit examination. The cornea was apparently clear. The anterior chamber was extremely shallow. A thin, gray membrane covered the 2 mm., immobile pupil; through it an ophthalmoscopic view of the fundus was impossible. Application of a tonometer to the eye was also impossible, but the intraocular tension elicited by digital examination was about normal. Transillumination revealed a reflex superiorly and nasally, but was wanting inferiorly and temporally.

Left eye: Vision 20/20. Externally and ophthalmoscopically the examination was negative. The field for form and the intraocular tension were about normal.

On October 31, 1927, under ether anesthesia, an external canthotomy was done, followed by a complete exenteration of the orbit, including the lacrimal gland and orbital periosteum. After removing the mass, the orbital wall of the posterior ethmoidal sinuses was found to be necrotic. It was broken down and the cavities cu-

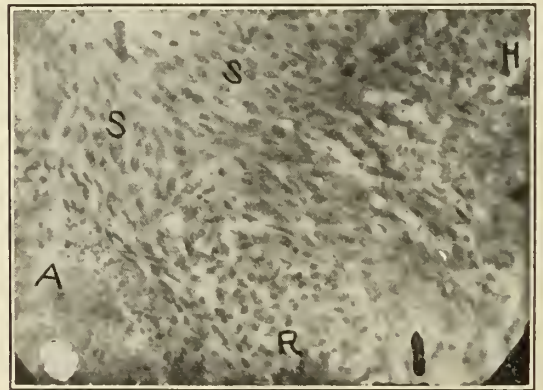


Fig. 2. Section through extreme posterior part of tumor mass showing, S, spindle shaped sarcoma cells; R, small round sarcoma cells; A, small artery; H, hemorrhage into superficial part of growth just beneath capsule.

retted. The orbit was packed with vaselined, iodoform gauze, and a pressure bandage was applied. Convalescence was uneventful.

PATHOLOGIC REPORT BY DR. HARVEY D. LAMB

The tumor mass with the eyeball imbedded in it was fixed in 10 per cent. formalin solution.

Macroscopic findings. The excised mass of tissue measures 50 mm. over its longest dimension, extending from the upper inner angle of the mass to its lower outer angle, its height at right angles to the first dimension is 45 mm. and the thickness, or anterior-posterior dimension, is 32 mm. The growth is well circumscribed and is everywhere covered with a thin connective tissue capsule.

The eyeball is located at the extreme upper inner angle of the tumor mass being surrounded on all but the inner side by tumor tissue. The cornea appears small, measuring 9 mm. in diameter, because its periphery is overlapped with secondarily inflamed conjunctiva. The cornea is clear, there is no anterior chamber, the pupil is small and irregular from its attachment to a grayish-white connective tissue membrane occluding the pupillary area. The optic nerve posteriorly is entirely free from the growth.

The color of the growth is generally a dark gray but shows in places dark red mottling from superficial hemorrhages. In consistency the tumor is firm. The surface is smooth but shows some large prominences in places. On its anterior surface there is a large expanse of a thickened layer of scarred conjunctival tissue extending downward and outward from the cornea. Some orbital fat is found clinging to the inner part of the growth.

If the tumor mass and eyeball are now bisected along the long diameter or from up and in to down and outwards, the out surface of the neoplasm is found to be grayish-white in color. Close to the capsule anteriorly and temporally there are seen areas of dark red mottling, made out with the loupe to be hemorrhages. The center of the tumor mass temporal from the eyeball shows an area of softening.

The grayish-white growth solidly fills the back of the eyeball to about 15 mm. thickness, extending about 2 mm. farther forward on the temporal than on the nasal side. The retina is completely detached with some dark red coagulum between it and the growth. On the external side anteriorly, with the loupe there can be seen tiny blood vessels with thin coatings of tumor tissue.

A thin segment from the most posterior part of the growth, another from the lower outer angle where the small hemorrhages were marked and the free end of the optic nerve were all excised, dehydrated in the alcohols and imbedded in paraffin. Sections were stained in hematoxylin-eosin and by Perles' method for free iron.

Microscopic findings. The sections from the growth show it to be composed of spindle and small round sarcoma cells; the two types of cells occur always in groups of varying size and these groups of cells are found mingled together with no regularity. It is interesting that most of the round cells show degeneration with breaking up and vacuolization of the cytoplasm and an irregularity, shrinking and darker staining of the nuclei. There are many large capillaries and much hemorrhage in these sections from the superficial parts of the growth. In many places hemorrhage has infiltrated the tumor cells. In-

filtration with varying amounts of small lymphocytes is occasionally seen.

Superficially there is a thin connective tissue capsule infiltrated in many places with red corpuscles.

Some of the tumor cells contain dark brown pigment in varying amounts. This pigment could be melanin or derived from the blood. Most of the pigment bearing cells are near the blood vessels and hemorrhagic areas. In addition, in and around some of the hemorrhages, considerable black pigment is found; this black pigment occurs in fine grains and small granules; the granules are sometimes grouped together into irregular shaped and loose masses.

Sections from one part of the growth where hemorrhages were particularly marked, that is at the lower outer angle of the mass, were stained by Perles' method. This procedure colors free iron a bright blue. If the pigment in the tumor cells takes this color it would indicate that this pigment was not melanin but hemorrhagic. It can be said that by Perles' method most of the intracellular pigment is thus found to be hemorrhagic. The black grains and granules which are mostly intercellular do not color blue but remain as before. This pigment being present in much the greatest intensity within the hemorrhages seems to be related to hematin or methemoglobin.⁵

The optic nerve, posterior to the sclera, is atrophic but shows no infiltration with cells from the neoplasm.

Diagnosis. Mixed cell leucosarcoma but whether primarily orbital or choroidal is now only a matter of conjecture.

Sections and specimens were prepared at the Eye Research Bureau maintained by the Missouri Association for the Blind and the St. Louis University Medical School.

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BIBLIOGRAPHY

1. Fuchs: Textbook of Ophthalmology, Philadelphia, J. B. Lippincott Co.
2. International Clinics II, Series 19.
3. Collins and Mayou: Pathology and Bacteriology of the Eye.
4. Kerschbaumer: Putiata. Sarkon des Auges.
5. Hueck: Beitr. Path. Anat. 54:68, 1912.

DIABETES AND PREGNANCY*

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Diabetes occurring during pregnancy is a serious complication. It is one of great danger to both mother and child. The mortality to the mother is from 25 to 55 per cent. Abortion occurs in about one-third of the cases, generally between the sixth and eighth months. Labor is often premature and frequently made difficult by a large fetus. Such patients are very susceptible to infection. The fetal mortality is about 45 per cent. while about 75 per cent. of the infants born die within the first few days and hydramnios occurs in about one-fourth of the cases. It may be well to state

* Read before the St. Louis Obstetrical and Gynecological Society, October, 1927.

here that this percentage of maternal and fetal mortality has been made from data referring to cases before the general use of modern diet and insulin. Fortunately the complication is rare, for diabetes exerts an unfavorable influence on the reproductive organs. At first it gives rise to functional disturbance and later to atrophic changes in the ovaries and uterus with resulting disorders in menstruation and sterility. Menstruation is absent in about fifty per cent. of diabetic women. Parsons, Randall, and Wilder¹ report only eleven cases of pregnancy among 285 diabetic women of child bearing age. Other writers cite about the same proportion. Sterility seems to run parallel with the duration rather than the severity of the disease.

Since the discovery of insulin treatment with it has proven the possibility of restoring the reproductive organs, always provided that the organic change has not been too great. Joslin, Root and White² discuss the problem, "Will Diabetic Children Grow and Develop?" The answer to this question is still unsettled. While no girl unaided by insulin had ever, in their experience, developed menstruation after the onset of diabetes, yet since the use of insulin four of their girl patients have begun to menstruate for the first time. Other clinicians have reported a development or recurrence of menstruation under insulin treatment.

Pregnancy has an unfavorable influence on diabetes, aggravating already existing conditions and sometimes starting active conditions in women predisposed to the disease. What might appear as a simple case of glycosuria, inherited or acquired, may develop into a marked case of diabetes mellitus when influenced by alterations of the endocrine functions and excessive intake of carbohydrates or toxic conditions. One or all three of these appear in most pregnant women and when added to impaired pancreatic function may cause diabetes. In such cases it generally appears between the fifth and sixth months. The onset is usually gradual but, owing to the tendency to acidosis in pregnancy, the first indication may be an attack of coma.

The effect of pregnancy on diabetes is due to the lowering of the sugar tolerance. During the first three months it is probably caused by the proteolytic enzymes from chorionic villi and during the fifth and sixth months to the hyperactivity of some of the glands of internal secretion, especially the thyroid and pituitary. Following nausea

and vomiting, in cases where they occur, the enormous intake of carbohydrates may be another cause for lowering the sugar tolerance. On the other hand, a large amount of carbohydrates is necessary in order to ward off the more serious complication of acidosis, which is more likely to occur in pregnant than nonpregnant diabetics.

In the opinion of many writers the tolerance decreases toward the latter months of pregnancy, while some hold that the patient shows a gradual improvement. They explain this by the fact that during the latter months the fetal pancreas supplies insulin to the mother helping her to better care for the carbohydrates. They feel the proof of this lies in the sudden decrease in the sugar tolerance at the birth of the child. Illustrating this fact, Carlson and his pupils in experimenting with pregnant dogs found that dogs deprived of pancreas near term did not develop glycosuria until after the pups were born when the mother became diabetic at once. However, Markowitz and Loskin³ in experimenting on their dogs found "no evidence that the fetal pancreas can secrete into the maternal organism a sufficient amount of insulin to offset the diabetic condition caused by pancreatectomy." While pregnancy seems to be beneficial to artificially produced diabetic dogs, it sharply contrasts with the usual harmful effect on the diabetic woman. The reason for this, Carlson⁴ suggests, is that the diabetes produced in animals by removal of the pancreas is probably of a different type than that in the human.

Ehrenfest⁵ says, "Summarizing available information concerning fetal and maternal pancreatic function during pregnancy we can say: We possess no definite evidence of a physiologically altered function in the mother. We have evidence that the pancreas of the fetus functionates normally, but not the slightest proof for the transition of island hormones from the fetus to the mother, or vice versa. We may assume that in accord with the law of diffusion in a diabetic mother a larger amount of sugar is passed through the placenta to the fetus, but it seems that the latter is able to metabolize properly this excess, a fact which may explain the common observation that babies of diabetic mothers are very heavy. A baby born by a diabetic mother, however, is not likely to show a glycosuria or other signs of diabetes at birth."

Lambie⁶ cites a case where the blood sugar showed a slight increase up to the birth of the child and then made a sudden

rise which lasted forty-eight hours before dropping. He gives three possible causes for this: (1) spontaneous return of the capacity to oxidize the sugar in the body; (2) the excretion of carbohydrates in the form of lactose in milk; (3) a rapid replenishment of the glycogen reserves in the liver and muscles after their depletion during labor.

Since the complete oxidation of the fats depends upon the carbohydrates an insufficient supply of carbohydrates, as in starvation, or an imperfect utilization, as in diabetes, causes incomplete oxidation and acetoneuria results.

The diabetic pregnant woman is most susceptible to acetoneuria, not only because of the imperfect utilization of the carbohydrates on her part but because of the excessive demand for carbohydrates on the part of the fetus. This has a greater tendency after the sixth month. In such cases, even when insulin is being used, it is necessary to give the patient a large carbohydrate diet in proportion to fat diet to avoid acetoneuria and coma.

The diagnosis of diabetes in pregnancy is frequently very difficult. Stansfield⁷ gives a differential diagnosis between diabetic and nondiabetic glycosuria in pregnancy. He cites fifteen cases, eight diabetic and seven nondiabetic. His conclusion is "that it is impossible to divide sharply the diabetic from the nondiabetic patient, whether by history, physical status or blood sugar. Passing the time seems to be the final diagnostic factor. Included in the second group are examples of nondiabetic glycosuria with a (temporarily at least) high blood sugar and glycosuria with low blood sugar. He quotes Schenk as saying "that extreme caution must be used in these cases and that it is wisest to treat them as diabetic until observation shows them to be nondiabetic." In other words, if the glycosuria and hyperglycemia do not respond to diet, insulin should be used and the effect observed.

Since insulin has been used in the treatment of diabetes the prognosis of pregnancy in diabetes is much improved. This is greatly to be desired because its use will increase the frequency of pregnancy; since amenorrhea seldom occurs in patients who have had adequate treatment early. Under the insulin treatment the amniotic fluid will probably be normal in amount and the fetus normal in size. It will seldom be necessary to interrupt pregnancy and if it proves necessary to use surgical interference the

mother should prove the average risk. The susceptibility to infection is decreased.

There have been a number of cases reported of pregnant women treated with insulin. Some of them, although showing improvement over the old methods of treatment, were rather disappointing while others were very gratifying. Some cases are reported where necropsy following the death of the mother has found irreparable damage in the liver and the kidneys caused by acidosis.

A review of the literature leads me to believe that most of these disappointing cases were those where the insulin treatment was started after irreparable damage had been done.

Reveno⁸ states that "the efficacy of insulin as an antidote for diabetic coma has been sufficiently well established to prompt Joslin to state that 'deaths from diabetic coma are unnecessary accidents that can be avoided by sensible treatment. If the patients die from coma at the present time it is a disgrace to the medical profession.' While the literature abounds in reports of cases of diabetic coma complicating various conditions, no instance has been found in which a well advanced pregnancy has had to be reckoned with along with the coma. The case here reported is of interest, therefore, because it deals with just this sort of situation." His case is of a woman forty-two years, chronic diabetic, pregnant thirty-six weeks, who entered the hospital in a comatose condition. Her breath was distinctly acetone, she was markedly emaciated, temperature 95, pulse 110, weak and thready, pupils dilated. Urine contained acetone, diacetic acid and 2.5 per cent. sugar. Blood sugar was .444 per cent. Insulin was administered hourly. After fifty-two units in three hours the patient regained consciousness. Whenever the dosage was decreased she became short of breath, restless and sometimes inclined toward coma. The urine cleared but the blood sugar stayed high. After three days of this treatment the patient went into fifteen hour labor during the last ten hours of which she was given ten units an hour. After the birth of a premature child which lived sixteen hours, the doses of insulin were cut and the blood sugar decreased rapidly. One month later the urine was normal and the blood sugar was .136. At this time the patient was taking five units of insulin every other day.

Fitz⁹ reports a case of a young woman with diabetes who had a return of menstruation under insulin treatment after near-

ly two years of amenorrhea and who finally became pregnant. After many months of low diet and small doses of insulin (ten units per day) it was possible to keep the urine sugar free. The patient was at a low rate of nutrition, felt weak, developed infection easily, lost weight, and found it almost impossible to work.

For two years a radical change in treatment was followed. Large doses of insulin (forty units daily) and a high calorie diet was given. Following that treatment the patient gained in weight, had a return of normal sense of well-being and strength, and had a return of normal menstruation. Pregnancy was terminated by a miscarriage attributed to a fall.

Labbe and Couvelaire¹⁰ treated a pregnant woman with a severe form of diabetes. Under appropriate diet and insulin (daily 50 units) the condition of the patient improved; the gestation came to full term ending in normal childbirth. The diabetes then subsided to its previous moderate form.

Parsons, Randall and Wilder report two cases. Both were young thin women who developed diabetes rapidly and applied for treatment in a state of impending coma. Both were largely dependent on insulin when later they became pregnant. One failed to follow her diet, took 20 to 30 units of insulin daily, found sugar in her urine whenever she tested for it but felt well and was able to attend her household duties. She was delivered of a seven months baby weighing $3\frac{3}{4}$ pounds. A year later she was normal weight; she varied her insulin dosage daily according to her diet for which she had little regard. She still finds sugar whenever tested but had no other symptoms of diabetes. Menstruation was irregular and scanty. The baby at twelve months weighed fifteen pounds.

The second case adhered to diet. During the first four months it was necessary to increase the dosage of insulin gradually until the patient was getting 60 units daily. At the sixth month 40 units were sufficient and at the eighth month symptoms of hypoglycemia appeared on 35 units. During her pregnancy she gained nineteen pounds and felt better than she had since the onset of diabetes. When labor started there was only a faint trace of sugar in the urine and the blood sugar was normal. Insulin was discontinued. After delivery that patient lived on the diet she had had for two years and no insulin was necessary. There was no sugar in the urine and the blood sugar was normal. Even though there was only

a small amount of breast milk, apparently free from sugar, when lactation ceased her blood sugar rose and sugar appeared in the urine so that insulin was necessary. The patient left the hospital having a diet higher in carbohydrate and using less insulin than formerly. The baby seemed normal in every way. Menstruation began when the baby was two months old and caused a change of sugar tolerance. The urine contained a large amount of sugar. Insulin was increased and the carbohydrate lowered. A few days later an insulin reaction occurred and the dosage was lowered again.

Both cases passed through successful pregnancies with no apparent increase in the diabetic condition.

REPORT OF CASE

I have a case to report which is of interest because I believe it would have terminated seriously for both mother and child except for the dietetic and insulin treatment. Mrs. R. T., aged 38 years, family and personal history negative, regular and normal menstruation. Had two normal pregnancies preceding the onset of diabetes; babies weighed $9\frac{1}{2}$ and 10 pounds respectively. During the fifth month of both of these glycosuria was discovered but it responded promptly to dietetic treatment and the patient had normal labor and puerperium. Fifteen months after the birth of the second child, April, 1923, she came to me with symptoms of diabetes. The urine showed 6 per cent. sugar and the blood sugar was .444 per cent. She had gained 25 pounds but was not pregnant at this time. Since she was a former patient of Dr. Lyter and had been sent to me for deliveries I referred her back to Dr. Lyter for treatment. According to Dr. Lyter's report she was put on a diet and insulin was given, beginning at five units. This was increased with increased diet. In August, 1923, she became pregnant for the third time. Her condition was much improved over April, urine was sugar free and blood sugar slightly above normal. She adhered strictly to her diet, kept chart and made daily tests. During her pregnancy she took insulin daily, the highest dosage being thirteen units during the last two months. April, 1924, she was delivered of a $10\frac{1}{4}$ pound normal girl baby. She kept up her diet and insulin for about a year and was in good condition. Then for six months she neglected herself and had "smothery" spells. Twenty units of insulin daily were given by Dr. Lyter with desired results. The patient moved away from the city but a letter some few days ago tells me that so long as she adheres to her diet and insulin she loses weight and feels much better, but as soon as she neglects herself her hands and legs swell, her backache returns and she suffers from dizziness. After delivery, because of the tendency to relaxation of the uterus and uterine hemorrhage, the baby nursed every four hours the first two days. At frequent intervals during these two days the baby had severe crying spells and acted very much like it was having a spasm. The baby was taken from the breast and artificial feeding was started. Immediately the crying spells stopped.

It is my opinion that the baby nursing had nothing to do with these spells. I feel that since the mother had a superabundance of sugar, the baby of necessity had an excess which caused a hypertrophy and

hyperplasia of the fetal pancreas. At birth this extra sugar was stopped but the overactivity of the pancreas continued, probably causing the spells. When milk was given the sugar therein took care of the extra insulin and the spells stopped.

At three and one-half years the mother and family physician reports the child to be "a perfectly wonderful specimen of health, larger and stronger than the other two children, and very bright mentally."

Three and one-half years after delivery the mother's condition seems as good as before pregnancy. So far as I have read of cases reported this is one of the few in which so much time has elapsed since normal delivery of a normal baby to a diabetic woman having had diabetic insulin treatment. I feel it is a real proof of the efficacy of the treatment.

CONCLUSIONS

1. In reviewing the literature on this subject I am impressed with the difficulty in diagnosis between renal glycosuria and diabetes mellitus.

2. Each case has to be treated differently and according to the needs implied, always bearing in mind to watch the blood sugar as well as the urine sugar and general condition.

3. I recommend that the baby of a diabetic mother be started at once with artificial feeding instead of waiting the customary three days.

4. In my opinion, the prognosis for both mother and child in such cases is good, always providing the diet and insulin treatment have not been started too late.

University Club Bldg.

BIBLIOGRAPHY

1. Parsons; Randall and Wilder: Medical Clinics of North America (November) 1926, p. 679.
2. Joslin; Root and White: J. A. M. A. **85**:420-422 (August) 1925.
3. Markowitz and Loskin: Am. J. Physiol. **79**:558 (February) 1927.
4. Carlson: Am. J. Physiol. **36**:217, 1915.
5. Ehrenfest, Hugo: Am. J. Obst. & Gynec. **8**:685-709 (December) 1924.
6. Lambie, C. G.: Edinburgh M. J. **34**:43 (March) 1927.
7. Stansfield, O. H.: Am. J. Obst. & Gynec. **12**:358-363 (September) 1926.
8. Reveno, W. S.: J. A. M. A. **81**:2101 (December 22) 1923.
9. Fitz, R., and Murphy, W. P.: Boston M. & S. J. **193**:1092 (December 10) 1925.
10. Labbe, M., and Couvelaire, A.: (ab.) J. A. M. A. **86**:154 (January 9) 1926.

A REPORT OF FOUR CASES OF POST-OPERATIVE HEAT STROKE*

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ST. LOUIS

Heat stroke as a postoperative complication was first recognized and described by Gibson in 1900. He reported two positive cases and mentioned a third probable one. Johnson reported three cases and Brewer one. Crandon and Ehrenfried re-

port three cases but give the history of only one. Moschowitz in 1916 reviewed the literature to that time and was able to add five more cases. Botselle in 1923 described seven cases of postoperative heat stroke confirmed by autopsy.

Four cases of postoperative heat stroke have been collected over a period of five years from 1922 to 1927, for this report.

REPORT OF CASES

Case 1. No. 6982. Mrs. E. F., age 52, white, housewife, entered St. John's Hospital, June 8, 1922, complaining of (1) bloody vaginal discharge; (2) loss of weight; (3) nervousness. Physical examination showed the uterus to be larger than normal, hard in consistency and anflexed. There was a large movable mass attached to the right horn of the uterus. Physical examination otherwise negative.

A supravaginal hysterectomy was performed June 12 under ether anesthesia, duration of operation one hour. The mass was found to be a fibromyoma. The condition of the patient after returning from operating room was not good, pulse was rapid and irregular, volume poor, remaining at about 130 the afternoon and evening of operation. The patient was nauseated and vomited considerably during the day. The following morning at 8:00 o'clock the patient was almost pulseless; no evidence of hemorrhage externally. The skin was dry and hot, patient drowsy and stuporous, temperature 102° F. by mouth. In view of the dry and hot skin a rectal temperature was ordered as a check and it registered 107.8° F.

The patient was placed on a rubber sheet in bed and cracked ice packed about the arms, legs and back, the exposed parts of the body were rubbed with cakes of ice. Wet sheets were hung about the room and electric fans were turned on. Three thousand cc. of saline, chilled in ice, with 15 min. of digifolin were given intravenously. The color of the blood at this time was found to be much darker than normal and its viscosity was greatly increased. The temperature was taken by rectum every five minutes and at 12:15 p. m. when the temperature reached 103.2° F. the patient was removed from the ice pack and placed in a dry warm bed and stimulated. The temperature at 1:15 p. m. reached 96° F. and 500 cc. of saline warmed to 98.6° F. were given intravenously along with cardiac stimulants. The temperature continued to drop reaching 94° F. at 2:15 p. m. and remained the same in spite of stimulation until patient died at 4:25 p. m. The mean temperature June 12 and 13 was 83° F. on both days while relative humidity was 72 and 76 respectively at 7 a. m.

Autopsy showed acute parenchymatous hepatitis; fatty degeneration of heart and liver. Cause of death, postoperative heat stroke.

Case 2. No. 5970. Miss E. J., admitted to St. John's Hospital, March 20, 1922, with a transverse fracture of the middle third of femur. Attempts at reduction by the closed method were unsuccessful. The patient was an obese young female who at the same time was being treated by the medical service for several endocrine disturbances. On July 26, 1922, an open reduction was done with the application of a bone plate and on account of the large amount of fat the wound was drained. Patient was re-

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turned to bed and placed in a Hodgen splint without extension. At 7 a. m., July 27 the surgeon was notified that the condition of the patient was not good and on his arrival at 7:30 she was pulseless and unconscious, the skin pale, cold and clammy. Hot water bottles and blankets had been applied some time previously. Her oral temperature was 100.5° F. A vaginal temperature was ordered and found to be 108°. Patient was immediately packed in ice as described previously for one and one-half hours when temperature dropped to 105°, then moved to a dry warm bed. The temperature continued to drop reaching a low point of 101° but rose again and at 2:15 was 103°. Sponging with chilled water was resorted to and in 30 minutes the temperature had reached 102°, pulse 158. During the day the patient received about 2000 cc. of saline intravenously. The mean temperature on July 26 was 85° F. and the relative humidity 71 at 7 a. m.

There was no rise in temperature above 100° F. after July 28, 1922. The patient after this made an uneventful recovery.

Case 3. No. 4144. Mrs. W. T., age 54, white, housewife, entered St. Mary's Hospital Sept. 16, 1925, complaining of a painless lump in right breast, duration two years. The lump has gradually been increasing in size. Past history negative. Physical examination reveals a hard irregular lobulated mass in upper outer quadrant of the right breast about the size of a walnut. The mass is not attached to the chest wall. There are also a number of hard glands in the right axilla which are painless to palpation and are freely movable. Other physical findings are negative. Biopsy under local anesthesia on Sept. 17, 1925, revealed a scirrhus carcinoma of the breast. Patient placed under ethylene anesthesia and a radical amputation of the breast performed.

Patient returned from operating room in moderate shock, treated with heat, posture and administration of 1000 cc. 5 per cent. glucose, reacting rapidly. During the day there was profuse perspiration and a fair amount of emesis. At 3:30 p. m. the day of operation the right hand was blue and cyanosed and the pulse was not obtainable. The sutures overlying the vessels at the root of the arm were removed. The temperature at 2:30 a. m. Sept. 18 registered 102° F. by mouth. At 5:30 a. m. the attending surgeon called and found the patient to be dull and stuporous, skin hot and dry. A rectal temperature was taken and found to be 105.4°. The patient was placed in an ice pack and massaged as described previously and by 6:00 a. m. the rectal temperature had reached 110° F. After two hours of this vigorous therapy the temperature dropped to 103.4° and the patient was removed to a dry warm bed and stimulated. At this time urine and feces passed involuntarily. The lowest level reached by the thermometer was 99.6° F. at 8:40 a. m. It gradually rose however and at noon hydrotherapy was resorted to, to reduce a temperature from 103.6° to 101°. For the next sixteen hours the temperature ranged from 101° to 103.5°. Sponging with cool water resorted to for temperatures exceeding 102.5°. The pulse however became progressively more rapid and weaker, efforts to stimulate it proving unsuccessful and the patient died at 4:20 p. m., September 19. The mean temperature Sept. 17 and 18 was 83° and 86° respectively, while the relative humidity at 7 a. m. was 90 and 74 respectively.

The condition of the right hand mentioned above progressed rapidly and became gangrenous. The same condition was noted to appear in both feet below the ankles on the morning of Sept. 19. Early that afternoon, antemortem, it also appeared in the left hand, so that at the time of death both hands and both feet were gangrenous. It was noted in this case too that the blood was darker in color than normal and that its viscosity was greatly increased.

Postmortem examination revealed the peritoneal surfaces everywhere covered with a fibrinous exudate and they do not glisten. There is a moderate amount of free pus in the pelvis and a much denser and more purulent exudate about the ileocecal region, where the first part of the colon is so distended that the muscularis and the mucosa have given way and only peritoneum separates bowel lumen from peritoneal cavity. There are two hemorrhagic ulcers just above the ileocecal valve which seem at the point of rupture.

The most proximal of the intestinal lesions are subacute ulcers of Peyer's patches. There are three distinct ulcers with raised margins and dished out craters which run longitudinally to the direction of the gut. About a foot from the ileocecal region, the mucosa becomes gangrenous in appearance and there is a yellowish exudate like the diphtheritic membrane on the crest of the rugae. At two points the mucosa has been broken and the hemorrhagic necrotic infection has almost penetrated the entire wall. The first part of the colon has only strips of mucosa remaining. The intensity of the infection decreases as one reaches the transverse colon.

Diagnosis from autopsy, peritonitis from extension of acute suppurative enteritis.

Comment. This patient showed no abdominal symptoms or signs whatever. She regained consciousness the afternoon of the second day and remained so for some hours. Is it possible that the peritoneal exudate, the ulcers and the gangrene were due to high temperature?

Case 4. No. 212941. Mrs. L. P., age 57, housewife, entered St. Mary's Hospital July 24, 1927, complaining of a dull pain in right hypochondrium radiating to epigastrium and to the right scapular region, nausea and vomiting after meals and occasional attacks of colicky pain originating in the right hypochondrium. Physical examination reveals a rather marked jaundice and tenderness in the right hypochondrium. The liver is enlarged and may be felt about a finger breadth below the costal margin. A mass may be palpated in the right hypochondrium but cannot be definitely outlined due to the marked tenderness and muscular rigidity. The patient runs a temperature of 99° to 99.4° F.

On July 26, 1927, under a combination of local anesthesia and ethylene gas, the patient was operated. The gallbladder was distended buried in adhesions and filled with stones. The common duct was filled with stones of various sizes and greatly distended with bile and a purulent mucus. The gallbladder was removed, the common duct opened and the stones removed. A rubber catheter was placed in the common duct and sutured there.

Drainage from the wound the day of operation was profuse, the oral temperature rising to

103° F. pulse 120, respiration 24. Sponging immediately reduced the temperature. During the day 2000 cc. of saline given intravenously. The temperature on July 27 at 3:30 p. m., the first postoperative day, registered 103° F. by mouth. The surgeon making a call at 5:00 p. m. ordered a rectal temperature due to the dry, hot skin, the thermometer registering 106° F. The patient was immediately packed in ice and massaged as described previously. In addition 1000 cc. of 5 per cent. glucose and 1500 cc. of saline were given ice cold into the vein. It was noted here that the blood was darker in color than normal and that its viscosity was increased. After two hours of this treatment the temperature dropped to 102.4° F. The patient suffered a severe chill, lips became cyanotic, pulse rapid and weak. The hydrotherapy was stopped, patient moved to a dry warm bed and stimulated. The temperature dropped steadily reaching 100.4° F. at 9 p. m. but began to rise and by midnight it was necessary to institute the same measure for a temperature of 103.8°. The following afternoon July 28, the temperature rose to 103.2° and again the same treatment was instituted. The mean temperature, July 26 and 27 was 80° and 84° respectively while the relative humidity at 7 a. m. was 77 and 78 respectively. Following this the patient made an uneventful recovery.

In this series of four cases all were in the hospital for at least twenty-four hours preceding the operation and sheltered from the direct rays of the sun. There was no history of previous heat prostration or addiction to the use of alcohol. None were acutely ill nor were they considered poor surgical risks. There occurred however at the time of operation and for several days preceding it a condition commonly called a heat wave. As has been pointed out the temperature was moderately high with a high relative humidity and the absence of any breeze. In addition to the heat wave the excessive loss of body fluids, as evidenced by the physical condition of the blood, through emesis, drainage or perspiration, was an additional factor in the production of heat stroke.

Attention is directed to the discrepancy between the oral and rectal or vaginal temperature in all four cases. On this account the time of onset of the heat stroke is not definitely known. However, all appeared within the first thirty hours postoperatively. In three cases after the initial rise in temperature there occurred secondary rises which demanded treatment.

In view of these experiences a certain routine has been outlined for postoperative cases in warm weather.

The patient is not to be surrounded by heavy blankets and hot water bottles for any great length of time postoperatively. Fluids are forced either by proctoclysis, hy-

podermoclysis or intravenously the first twenty-four hours especially where there is a loss of body fluids. The air in the room is kept circulating by means of an electric fan. Rectal or vaginal temperature taken every two hours. The temperature of 102.5° F. is the arbitrary division beyond which hydrotherapy and if necessary ice packs and massage are instituted. After initial rises in temperature the patient is observed closely for secondary rises.

I wish to thank Dr. W. T. Coughlin, Professor of Surgery and Dr. F. W. Bailey from whose services these cases were taken.

St. Mary's Hospital.

BIBLIOGRAPHY

1. Gibson: *Med. News.* 77:883 (Dec. 8) 1900.
2. Carndon and Ehrenfried: *Surgical After Treatment.* 1912. p. 109.
3. Moschowitz: *Surg. Gynec. Obst.* 23:443-450 (Oct.) 1916.
4. Botselle: *Policlinico sex. chir.* 30:52 (July 15) 1923.

EMPHASIZING THE IMPORTANCE OF TEACHING THE PUBLIC MENTAL HYGIENE

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Ever since the creation of man there have always been some people who may be called problem individuals because of their conduct disorders or abnormal behaviorisms. Some of them may have what might be called simply quite serious "mental quirks" or "mental twists" in their personality. Others may differ more markedly from a normal person socially, morally, mentally, or emotionally. Quite a large percentage of those who have not been able to adjust themselves to modern social conditions, and who differ mentally and emotionally so widely from the normal mental characteristics of those who are classed as sane people, we find are not only bad misfits in society but are also a source of danger to the people and property of a community, so that it becomes necessary for the welfare of society to place them under restriction by our states.

We have all observed also that even in individuals who are considered normal we find many widely different mental and physical characteristics. No two human beings exist who are exactly alike physically. Likewise no two human minds can be found which are exactly alike mentally. We all differ from one another emotionally, intellectually, morally and socially. Our dispositions or our temperaments are not alike. Relative to an average temperament we may say of some people that they are more unselfish, more altruistic, less emotional, more social, more industrious, more energetic, more ambitious, more easily excited, quickly

provoked to anger, high tempered, head strong, somewhat exclusive, not fond of social functions, more generous, more amiable, not easily excited or provoked, not resentful, slow to anger or hatred, truthful, loyal, with a high sense of honor, and many other widely different mental characteristics which might be mentioned.

With all the various intellectual attainments of different individuals and the numerous mental emotions mentioned, we can readily see how there may be many different combinations of these numerous mental traits in different individuals. We can also clearly understand how the various possible combinations of these widely different mental characteristics must necessarily give rise to marked differences in the personality of individuals.

At this point I wish to state that in spite of the complex, intricate structural equipment and numerous functional activities of a human being, both mentally and physically, it is nevertheless a fact that at birth man is the most helpless of all animals and requires longer parental care than any other living creature.

This necessity or requirement has no doubt been established or ordained by Nature for a most useful and important purpose. The great purpose of this long parental care of human beings compared with that of other animals is not so much on account of the fact that considerable time is necessary for physical growth and development, but for the reason that the world into which we are born is infinitely complex, and for any individual to be able to adapt himself to the complexity of human life considerable amount of intellectual or mental training is required, as well as training and discipline of the natural instincts, impulses, and emotions, and many other personality forces. It is such training, if properly given under normal conditions, which finally enables us or fits us to meet the requirements of the complex social life of an adult. Were it not for the growth and development of the cerebral or mental functions of an individual and the necessary direction, guidance, training and sublimation of our natural inborn instincts, impulses, desires and emotions, the rearing of children would be a matter almost as simple and uneventful as the rearing of livestock.

In the great complexity of human life, the growth, development, culture and wide expansion of the mental powers or cerebral functions with a wise guidance, proper training and wholesome modification of the inherited emotional tendencies, becomes an absolute necessity for a successful social adaptation to the existing conditions of modern civilization.

Few of us realize as we should that a failure

properly to direct, train and discipline the natural, normal tendencies of the child too often results in fixed conduct disorders or marked abnormal behaviorisms. These lead toward maladjustment and frequently to such anti-social conduct that he must be placed in a reform school, sent to jail, to the penitentiary or committed to a state hospital.

A good percentage of the cases in our state hospitals today are simply the end results of unguided, or misguided, unrestrained, undisciplined natural instincts, impulses and emotions of childhood.

Here is where the modern movement of teaching the public the principles of mental hygiene will in time be a most important factor in reducing the percentage of cases of insanity. Here is the most promising and most hopeful field of work for the prevention of insanity. Great good had already been accomplished in this part of the field of preventive medicine. However, this great work is only beginning. In the report of the federal Census Bureau, facts available from this report in October, 1927, showed that insanity is widely spread and that our state hospitals gradually keep on increasing in population every year. Almost every state in our union is confronted with the task of providing additional accommodations for the care and treatment of the mentally sick. Scarcely any community is exempt from the ravages of mental disease. Statistics have shown more persons in hospitals than in colleges and universities. Over fifty per cent. of all hospital beds in some states are for mentally sick persons. The total cost of insanity to our states is equal to the value of the combined annual exports of wheat, corn, tobacco, dairy and beef products.

In every seventh family in the United States there is said to be one individual with more or less serious mental illness. Of the fifteen thousand suicides in the United States last year one-half or more suffered from mental disorder in some form or another. Among the American citizens during the past year over fifty thousand were forced to give up the battle of life and were admitted as new patients to mental hospitals. During the coming year fifty thousand or more of the same class of patients will be placed for the first time under the care of those who treat the mentally sick. Each succeeding year there will be a new army of fifty or sixty thousand who must be admitted to our hospitals for disease of the mind.

Thus we can clearly see that we have now living in our country from two hundred fifty thousand to three hundred thousand of our people who are within five years of the hospitals for the insane. These facts show a deplorable

waste of human efficiency, a tremendous social loss to communities throughout the land.

Homer Folk says, "Mental disturbance imposes a heavier load on the shoulders of a community, thwarts more legitimate human hopes and plans, breaks up more families and creates far more unhappiness than any one factor in modern life."

These facts are not generally known, or if known are frequently ignored. For these reasons it is very difficult to arouse public sentiment in favor of adopting methods of work for the prevention of this great waste of human efficiency.

Ever since our school days we have all been familiar with the word "hygiene." Parents have heard much about the physical needs of children, the care of the teeth, the removal of tonsils and adenoids, the question of feeding, the play and rest periods, how to avoid colds, to keep the children away from contagious diseases. For years we have been organizing campaigns for educating the people in the principles of hygiene for the protection and preservation of their bodies from disease, which is a most worthy undertaking and which is bringing splendid results every day, but what special work or what special progress have we made in our state in the development, protection, and preservation of healthy, normal brains and sound minds of our citizens? Is not the conservation of the mental health and strength of the citizens of the state of as great importance as the conservation of their bodily health? For a state to attain the highest possible development should it not seek to maintain and increase the mental as well as the physical vigor of its people? We have good reason to congratulate ourselves on the modern scientific methods of caring for these unfortunate dependents of our state. A state which seeks to attain the highest possible efficiency in the care of its insane is doing a most noble and commendable work for suffering humanity, but a state which goes a step further and seeks to prevent this sad affliction of its citizens aspires to still greater attainments and manifests a deeper interest and a greater concern for the welfare of its people.

We are today in very much the same position in regard to insanity that we were years ago in regard to tuberculosis. The public believed at one time that nothing could be done to check the ravages of tuberculosis. It felt no sense of obligation for the prevention of the disease and little for the cure, as it was then firmly believed that it was neither a preventable nor a curable disease. But the moment the public was led to realize that something could be done to prevent it that moment they began to feel that a duty

and obligation of the highest sort rested on them, and for a number of years our people have gone to work to stamp out this scourge of humanity and have already reduced the mortality over fifty per cent.

The fact that the public does not realize its duty and obligation in the matter of the prevention of insanity is perhaps largely due to lack of knowledge of this affliction. Our people have not yet realized the significance of this disease nor comprehended its magnitude. They are indifferent and unconcerned about the problem largely for the reason that they have little insight into its cause and therefore have no clear conception of how it can be prevented. The people still believe, and perhaps many of the medical profession may believe, that an undertaking for the prevention of this disease would be a useless task. So long as such opinions are permitted to prevail we must all admit that just so long will no steps be taken to educate the people on some of the common causes of insanity, and just so long will the public remain contented and unconcerned, with no sense of obligation in regard to this important part of preventive medicine. We should no longer accept the problem of insanity as a hopeless, unavoidable, irreparable condition; we are told by reliable authority that fully fifty per cent. of insanity can be prevented.

"To prevent insanity is not as easy and simple a matter as it is to prevent smallpox, typhoid fever, diphtheria, etc. One cannot be vaccinated against insanity, but there are other ways in which incalculable good can be done to reduce very largely the percentage of these cases. We must first of all realize that the foundations for insanity are laid, in most cases, years and years before the case becomes recognizable by the layman. The incubation period of insanity almost inevitably dates back to the early childhood of the patient when the foundation of the difficulty was laid. A preventive program for mental disease can do little good if invoked during middle life. Prevention must begin during early childhood." Proper preventive measures at this age will prevent a large percentage of cases. How many parents have been taught to realize the need of more information to direct the healthy development of the emotional life of the child? What special observation, attention, study, concern, and training have we been taught to give to the faulty traits of our children, such as: temper-tantrums, excessive irritability, untruthfulness, seclusiveness, stealing, truancy, fear, anxiety, depression, disobedience, deception, restlessness, running away, fussing, refusing to eat, constant fretting, envy, jealousy, hatred, worrying, quarreling, fighting, destructiveness, and

numerous other emotional upsets found in childhood. A certain per cent. of cases of maladjustment and insanity can be prevented by beginning at an earlier date than childhood. Some one has well said "prevention of mental disease must begin with the grandparents." This is unquestionably true in a number of cases and for this reason it becomes even more necessary to take up these preventive measures with the children of the present age as they will later become the grandfathers and grandmothers of the future generations. We must all understand that for the greatest good to be accomplished in the prevention of mental disease a great part of this work must be done by the ancestors of future generations.

Few parents have been taught to realize as they should the need of more information to direct the healthy development of the emotional life of the child. Among the normal emotions are anger, fear, timidity, bashfulness, feeling of remorse or shame, sorrow, grief, joy, happiness, jealousy, etc. Two of the most powerful emotions are fear and anger. Among the abnormal emotions may be mentioned a marked mental exaltation, or a marked mental depression (melancholia), abnormal irritability, peevishness, unreasonableness, sullenness, constant worry, an overanxious state of mind, childish petulance, silly elation, ecstasy, apathy, capriciousness, sauciness, rudeness; arrogant, dogmatic, abusive, combative attitudes; with a number of other mental states or attitudes due to abnormal emotional activities.

These various normal or abnormal emotional states are simply the moods or states of feeling of the individual. In mental diseases we find many kinds of mood disorders, many kinds of emotional disturbances. Many individuals seem to have inherited tendencies to mood disorders or emotional disturbances.

In the lives of all of us there are two very important groups of activities, intellectual activities and emotional activities. There is a great deal of misunderstanding in the minds of many of us as to the distinction between intelligence and emotion. Intelligence is altogether different from emotion. The ability to figure out how much is eleven times thirteen, or to recall the name of the fifth president of the United States, or the largest city or country in the world, are examples of intellectual activity. Our emotions have little to do with our intellect. Crying over the death of a friend, or jumping when a door slams, or shrieking loudly at a heavy clap of thunder are illustrations of emotional activity.

Our emotions play a deeply complex part in our every day activities, a far more important

part than we realize. Emotions resided in man long before his intelligence came into being.

"In children natural emotions may grow normally, may thrive too lustily, or may become retarded, or may be widely misguided. When our emotions are habitually thwarted, short-circuited, or directed into unusual channels we may become socially maladjusted and even perhaps mentally disordered." When it is considered that it is the child of today who is the man of tomorrow and that he is the most important of all things, it is surprising how little attention or concern is given by our state to the matter of education of the public and the dissemination of important information on mental hygiene for the future welfare and mental health of our rising generations.

What is more valuable, more desirable, more pleasing than a normal personality? It will insure not only a reasonable degree of success, but it will mean satisfaction and contentment in life.

The normal traits of a child can easily be turned in the wrong direction. Improper mental training with unfavorable environment is so frequently the cause of a stunted, ugly, abnormal personality. The emotions of the child if properly directed and controlled may become valuable assets, but if allowed to develop unguided or undisciplined may prove to be serious liabilities.

A realization of the responsibility and duty of a state to provide the necessary means to change these liabilities to assets will not only prove to be a great financial economy, but will be of incalculable value to our citizenship and mark an important epoch in Missouri in the history of modern preventive medicine of our state.

As money spent now by our state in teaching and enforcing the practice of the great principles of physical hygiene for the protection of the physical health and lives of its citizens has proven to be of great financial economy, so will money appropriated by our state for the prevention of insanity by teaching and enforcing the laws of mental hygiene prove to be of equal value both from a humanitarian and financial viewpoint, by protecting and preserving the mental efficiency, as well as the physical efficiency of its people.

Dr. Pratt says, "The two year old Johnnie or Susie may have learned at an early age that a stomach-ache turneth away wrath, or that staging a temper tantrum with loud shrieking voice, stamping feet and upheld fists will quickly reduce a kind-hearted mother to frightened submission, when it comes to getting ice cream, candy, late hours, or some other desired bits of forbidden pleasure. Breath-holding spells,

likewise, rank high among juvenile weapons used to frighten a mother, or reduce an adamantine paternal front to submission through arousing fear of suffocation (though never warranted); vomiting, convulsive attacks, finicky, capricious appetites, fussing about foods, refusing to eat, or refusing to take this or that kind of food, and a thousand other ingenious devices are used by many children as a means to avoid doing something unpleasant, or to secure something forbidden, or to gratify some urgent desire or wish. Such conduct disorders in early childhood, unless corrected, will gradually lead to still greater bad behaviors and finally to social inadequacy in adult life, and in a certain percentage of cases, finally lands the individual either in the penitentiary or in a state hospital."

"In correcting conduct disorders of childhood we should keep in mind the four qualities or characteristics of early childhood,—plasticity of personality, suggestibility, imitability, and love of approval. These characteristics furnish the parent and teacher a key to the problem of promoting efficiency, happiness and mental health in the children under their care."

Steps are being taken for a universal education as to the significance and value of mental hygiene. This is being done by the constant dissemination of mental hygiene facts. The field of work is limitless and the final outlook most promising. We should all lend a helping hand.

This dissemination of knowledge to the community in general, concerning mental hygiene, is the first step to be taken in the work of prevention of mental disease. Parents and others who are interested in treating conduct disorders of early life as an important step in the work of preventing maladjustment to society or possible insanity, can obtain much valuable information by writing the National Committee for Mental Hygiene, 370 Seventh St., New York City, N. Y.

Among the many articles, pamphlets, booklets and books which can be furnished by the National Committee for Mental Hygiene which are worth far more to any one than their small cost, are, *Mental Health in Childhood*, *How Habits are Formed From Earliest Infancy*, *Points in Child Behavior*, *What Can I Do With Johnny*, *Practical Aspects of Parental Love*, *Psychiatric Examination of a Child*, *Understanding Our Children*, *Education and Mental Hygiene*, *Hygiene Problems of Normal Adolescence*, *Behavior Difficulties in Children*, *Every Day Problems of the Every Day Child*, *Your Mind and You*. In addition to the few subjects mentioned the National Committee for Mental Hygiene will furnish a long list of

pamphlets containing most valuable and practical information on the subject of mental hygiene.

State Hospital No. 2.

THE MENTAL HYGIENE OF CHILDHOOD*

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In choosing for my subject such a topic as the mental hygiene of childhood I make no apology. It has been said by some perhaps too enthusiastic writers that this is the century of the child. Certainly the importance of the child is coming to be recognized.

For many centuries the role of the child was an insignificant one. The axiom was that the smaller members of the family should be seen and not heard and the less they were seen the better. Their medical treatment consisted of castor oil and quinin; their surgery was confined to ligature of the umbilical cord and circumcision.

In more recent years the science of pediatrics became a distinct entity. Now we regulate infants' diet by specialists; we remove their tonsils and adenoids at an early date; we immunize them against typhoid and diphtheria and in general take care of their physical well-being.

Until very lately, however, the mind of the young child received very little attention. It was assumed, where any attention at all was paid to the subject, that the child was a miniature man, that he gradually expanded until somewhere roughly around the age of 21 he became mature.

Nothing, of course, could be farther from the truth than this attitude, which is really a relic of anthropomorphism. The child, it is true, does suggest the man, but the man he suggests is a savage forebear, the ancestor in the mists of antiquity of the modern man. In his development the modern child, although not paralleling it exactly, presents a miniature picture of the growth of the mind.

First comes the stage where creature comforts occupy his interest—warmth, food and comfort. Then the stage of interest in bright colors, noises, dancing and mimicry. Then the stage of games where he enacts sportively the hunting and fighting of the savage. All of this belongs to the stage of phantasy and it is at this time that he loses himself in fairy tales and adventures of heroes, just as the savage absorbs the folklore of his tribe or listens while

* Presidential Address delivered before the Annual Meeting of the Missouri Public Health Association, Jefferson City, April 20, 1927.

the aged ones recount the deeds of some long dead chieftain.

Then, just as primitive peoples were forced to abandon eventually the life of hunting, fishing, fighting and telling tales for industry and agriculture, so does the child find it necessary to relinquish his preoccupation with phantasy and turn his attention to the world of reality, first school and later a trade or a profession.

But this road upward is not always the sort of smooth, well made one that we find in our native state, Missouri. Instead, there are occasional detours where the individual seems to be getting nowhere for a while, and having a particularly hard time in doing it, until at length, profiting by proper instruction, he emerges on to the correct path. Sometimes he is led astray from the main road and finds himself ultimately in a morass from which he needs help to be extricated; and now and then he meets with accidents which delay him and which even end his upward progress. We may call them diseases, unfortunate sexual experiences, personal deprivations and the like.

But all this is perhaps too figurative. It is essential only to remember that the progress of the child upward from infancy to a healthy maturity is sometimes a perilous one beset by pitfalls and needing our earnest attention. It is not enough to see that our children are physically healthy, that they are not underweight, that they eat and sleep well and function in a physically healthy manner. We are also responsible for their mental health and by our diligence we may be able to protect our posterity from some of the number of neurotics and psychotics we have today.

It may be observed that this is all very well, in a general way, but what are we to do in the matter? Before answering this, I think it would be well to divide the subject a bit. In dealing with children I have always been accustomed to think of them in three groups: (1) The mentally defective child; (2) the child with neurotic or psychotic possibilities; (3) the normal child.

Let us consider these three classes for a moment. The inadequacies of the mental defective should become apparent fairly early in his career. It is our province then to see upon what the defective is dependent. Perhaps it is some cause amenable to treatment and we may advise the parents accordingly. Or, perhaps, as is too often the case, the cause is one for which there is no satisfactory treatment—inherited syphilis, microcephalus, hydrocephalus and other developmental anomalies. It behooves us then to advise the parents as to the future of the child—to what degree he can be-

come self-supporting, what amount of supervision he will need, etc.

The children with neurotic and psychotic potentialities offer a much broader and more fascinating field. A host of symptoms, present sporadically and to a less degree even in normal children, invite our attention. They range from the milder ones, such as temper tantrums, nocturnal enuresis, night terrors, through the moderately severe ones, such as lying, pilfering and stammering, to the most severe ones, such as epilepsy, chorea, extreme callousness and criminal and abnormal acts of all kinds.

It is naturally not my intention in an address of this scope to deal particularly with these phenomena. Suffice it to say that they are danger signals. The child who suffers from inexplicable vomiting or constantly wets his bed, or is addicted to masturbation, or flies into a rage, is one who demands investigation. It is marvelous, indeed, how often a few interviews with the child and his parents (particularly his parents) suffice to moderate or abolish the distressing symptoms. How often when neglected these symptoms persist and the child grows up to be a neurasthenic or hypochondriac, suffering from shyness or morbid fears, from migraines, sexual aberrations, functional gastro-intestinal disorders, and so on.

I spoke a few moments ago of the parents. It is most important to investigate the family and not be content with the statement that the "parents are both healthy" and that they are devoted and sympathetic. Often, on looking into the matter, we find one of the parents is neurotic, that one of them is too lax and the other too stern, that the parents quarrel before the child, or that one parent gets his or her way by outbursts of rage or fits of sullenness or weeping. Small wonder that the child with his gift for mimicry tends to utilize the same weapon. Let us not forget that the child's role is often an obscure one. The adults of the family talk, make plans and go, so the child thinks, when and where they please. The child must sit back. If he attempts to join in the conversation or indeed make a noise of any sort he is snubbed. He is not included in the family councils and plans are made with the assumption that he will fall in with them without comment or protest.

On the contrary, when the child has attracted attention by some departure from his normal—a refusal to eat, a headache, a vomiting spell, or what not,—he finds that at once he becomes the center of attention, and the role pleases him. It easily becomes a chronic attitude.

It must not be thought that in thus advocat-

ing attention to the mental hygiene of the child I would neglect his physical welfare. The two are interdependent, much more so than in the adult. I agree thoroughly with Dr. Emmet Holt, who says: "The health, growth, and physical development of children, and to a considerable degree, their mental development and progress, depend upon their nutrition."

Upon nutritive problems and upon the physical diseases of childhood we should concentrate, but we should also supervise habits of work and play, the development of the instincts, education, not only the formal academic kind, but education in sexual matters, in meeting situations squarely, in choosing environments and occupation.

We come last of all to a consideration of the so-called normal child. Probably, of our school children, leaving out those who have already begun to show definite signs of defect, we would find about 5 per cent. definitely neurotic and the other 95 per cent. falling in a group which might roughly be classified as normal.

It is to this normal group—and by normal I mean that they do not vary sufficiently from the average to present any marked evidence of maladjustment—that we must look for the citizenry of the future, and it is with them that we must work.

First, as to education: It is essential, I think, to bear in mind that all of the activities of the child, from birth upward, are in a sense educational since they are directed toward training him to take his place in society. The time he spends in the school room is after all only a small part of his time. In his play, in his reading, in his daily contact with his playmates and members of his family, he is being prepared for the future.

The pedagogues of today have evolved and are evolving an intelligent program of education whereby, instead of being required to learn by rote, the child absorbs knowledge as simply and naturally as the wild animal learns woodcraft. But outside of the curriculum of the school there is a vast field where the parents are the arbiters. In this domain problems arise which may be referred to the physician and here is his opportunity to put to use the principles of mental hygiene.

Time will not permit us to go into the various aspects of this fascinating field but a few words about education in sexual matters may not be amiss. We have passed far beyond the period where it is thought not "nice" to discuss such matters. The modern, intelligent parent realizes that as soon as children begin to display an interest in the subject that is the time to enlighten them, for somehow, somewhere they will obtain the knowledge

they seek. Many parents, however, either by reason of lack of intensive biological or physiological knowledge or on account of personal diffidence, hesitate to undertake the task. It is then, I conceive, the duty of the physician to instruct the parent how he can impart the facts of sex to the child by analogy, first with plant and later with animal life. Or, in special cases, it may be necessary for him to assume the role of the instructor himself.

The question of punishment of children is one which arises in every family and its solution has an important bearing on the future welfare of the child. Whether or not corporal punishment should be administered is a problem which presents itself to every parent. Most of us are sufficiently old fashioned to think that strap-oil is of equal value with castor oil in dealing with children. The modern tendency is, however, away from corporal punishment and leading child psychologists believe it is never necessary. There are three principles to be observed in punishing children: 1. Let the punishment, so far as possible, fit the offense both in its nature and degree of severity. 2. Do not let the punishment be dependent upon the state of feeling of the parent, as children are quick to see that they are punished "severely because father is mad," or that severe punishments follow trivial offenses when the teacher is worried or upset. 3. The punishment should inevitably follow the offense, that is, the child should never hope to get off because the parent forgot or "got over his mad." On the other hand, if the parent err at all it should be on the side of mercy. Any unusual display of merit after an offense has been committed, or any effort to repair mischief which may have been done should be recognized by the parent as mitigating circumstances, the punishment modified, and the child enlightened as to the reason.

In this way the child is prepared to go out into the world where he is not sheltered by parents, where punishment follows wrongdoing and yet where efforts to atone are also recognized.

But I must not attempt to go into too much detail. The mental hygiene of childhood is a fascinating topic and the temptation is to discuss at length the various problems presented.

My message to you is a plea not to neglect the physical health of children, to work earnestly as ever for sturdier, stronger children, to have better babies, feed them better, keep them free from infectious diseases, but also to see that their personalities are developing healthily, that they are not becoming either too blatant or too shy, that they are not harboring morbid fears or obsessions, that they are being

fitted for useful active roles in life, to become in their turn the parents of a healthy generation.

It is to our profession that the parents must look for help. We have all seen the army of neurotics who camp in our waiting rooms, who in their least manifestations are handicapped in the race for the good things of life and in their worst aspects are curses to themselves and every one who knows them. Let us do our part to diminish their numbers.

REFERENCES

1. The Mental Hygiene of Childhood. W. A. White.
2. The Challenge of Childhood. Irl S. Wile.
3. Child Hygiene. S. Josephine Baker.
4. Mental Deficient Children. Shittleworth and Potts.
5. The Problem of the Nervous Child. Elida Evans.
6. Abnormal Children. Bernard Hollander.
7. De l'education d'un Homme Sauvage. Itard.
8. Functional Nervous Disorders in Childhood. Leonard G. Guthrie.
9. Mental Health of the School Child. J. E. Wallace Wallin.
10. The Child in Human Progress. George H. Paine.
11. The Preschool Child. Arnold Gesell.
12. Hygiene of the School Child. Lewis M. Terman.
13. Helping School Children. Elsa Dennison.

A NEW X-RAY FRACTURE DEVICE

USES AND RESULTS

L. G. McCUTCHEM, M.D.

ST. LOUIS

In the X-ray, as well as in the operating room of today, the need for some simple mechanical means of extension for the reduction of fractured extremities is felt most keenly. With a view of providing this means of extension the writer has developed an apparatus which he believes will help materially in this work.



Fig. 1. Impacted Colles' fracture. Before reduction.



Fig. 2. Same case as Fig. 1. Fragments in perfect position. Note space between fragments at point of previous impaction.



Fig. 3. Fracture of surgical neck of humerus. Before reduction.

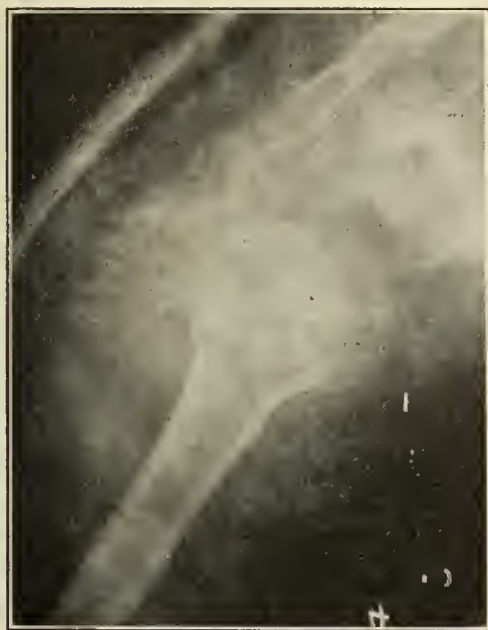


Fig. 4. Same case as Fig. 3, after reduction. Fractured surgical neck of humerus in perfect position.

The device, which is used to provide extension for fractures of both the upper and lower extremities, is composed of a base D made adjustable so that it may be shortened for upper extremities and lengthened for lower extremities. One end of D is attached to a socket E at the head of the table. At the other end is a peg, B, which slides along arc A. For fractures of the upper extremities the peg is placed in the

axilla. For the right arm it slides to the right side of the table; for the left arm, to the left side of the table. The cuff F is attached to the wrist. For fractures of the lower extremities, the peg B is kept in the center of the arc and in the patient's crotch. The cuff is attached to the ankle. Extension for both the upper and lower extremities is obtained by a long lever, I, at the foot of the table. After the necessary pull is obtained the extension is held when necessary, as in the application of casts, etc., by a hook on the small lever J. The lever method of extension is superior to other methods because increase and release of extension is immediate.

In the application of casts for the lower extremities the patient is placed on a pelvic support, K, which fits over the peg B. His back rests on an aluminum stand, M, and his head rests on a support which slides from the end of the box. The fractured extremity is suspended by levers, L. In order to fix the normal extremity to prevent rotation on the crotch peg during the extension, attach the normal extremity by means of the ordinary canvas boot to hook N, which is loose on the vertical portion of the traction bar. This hook does not turn with the bar and is held at the same height as the injured extremity by means of a collar, O. Levers I and J should be exactly parallel.

The device is attached to the regular X-ray or operating room table by means of three sockets (one at the head and two at



Fig. 5. Complete transverse fracture of femur, with overriding. Before reduction.



Fig. 6. Same case as Fig. 5, after reduction. Fragments perfectly approximated.

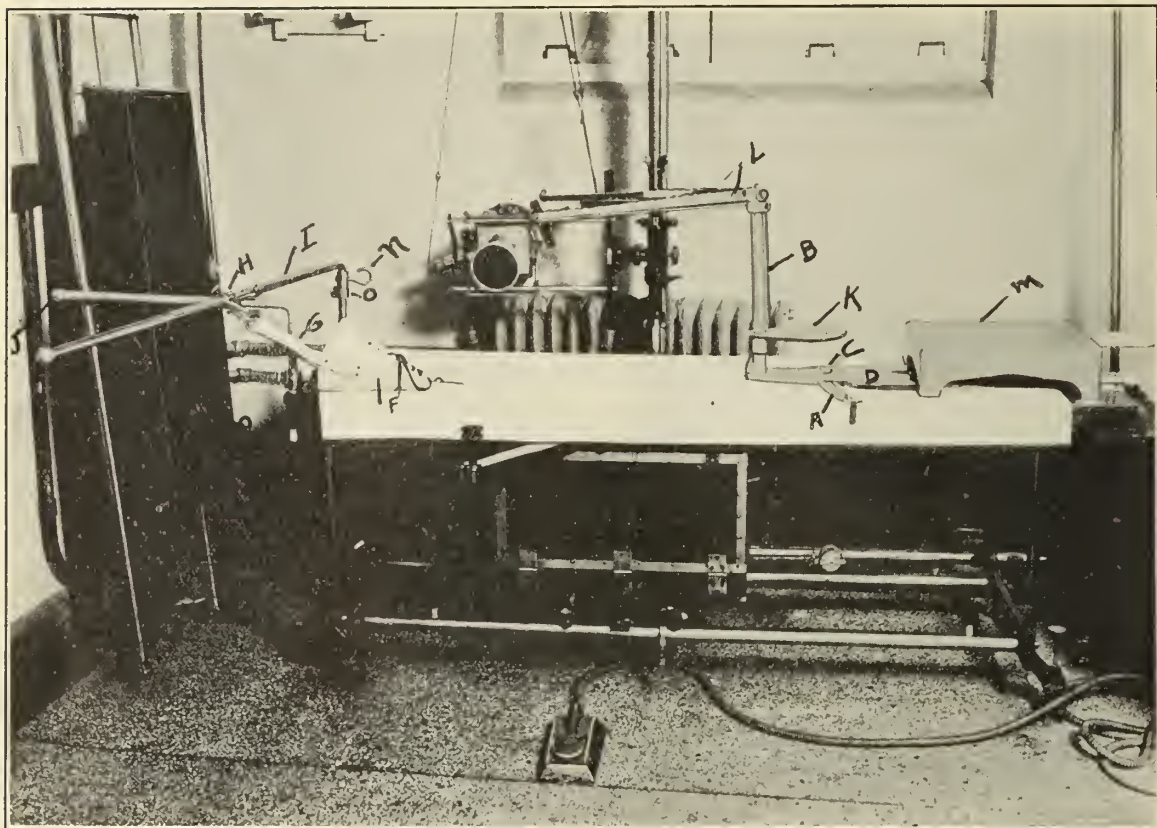


Fig. 7. See technical explanation.

the foot of the table). As these sockets are bolted to the ends of the table so that their edges fit evenly with its surface (Fig. 7) they in no way mar the table or interfere with its function.

For oblique fractures, which will not remain in position after attempted reduction, the amount of extension desired in pounds is determined by interposing a scale between the cuff and the traction bar. This pull in pounds, which has been measured during extension under the fluoroscope by the scales, can be applied to the extremity by weights over the end of the fracture bed, holding the fragments in approximately the same position during the healing process as that seen under the fluoroscope.

The ordinary radiographic and fluoroscopic table can be arranged so as to get two views with the use of a black lead glass fluoroscopic bowl (Fig. 10), which is light proof. This bowl containing tube can be placed on the regular tube stand, as illustrated, and rotated so that the ray will be parallel with the table from the side (Fig. 8). In order to get side view, pull string which switches from the fluoroscopic tube

under the table to the radiographic tube in the light proof bowl, using fluoroscopic setting. Cone ray down to the size of the fluoroscopic screen, using 1 mm. of aluminum as filter, which also closes out the light from the tube (Fig. 8).

An electro magnetic switch is being devised which will enable an instantaneous change to be made from the anteroposterior to the lateral view, or vice versa, by pressing a button on the side of the table, near the center, or incorporated in the foot switch.

Two views may be had by energizing the tube from the side and the tube under the table at the same time, using two fluoroscopic screens placed at right angle (Fig. 8), one vertical for lateral and the other horizontal for anterior-posterior view.

When viewing the fracture from the anteroposterior and lateral (or biplane) view at the same time, the exposure must be shortened. The manipulation of the fragments should be done without the X-ray. Traction is made with bar while under fluoroscopic vision. An oil immersed unit could also provide the side view.

The device can be also attached to the

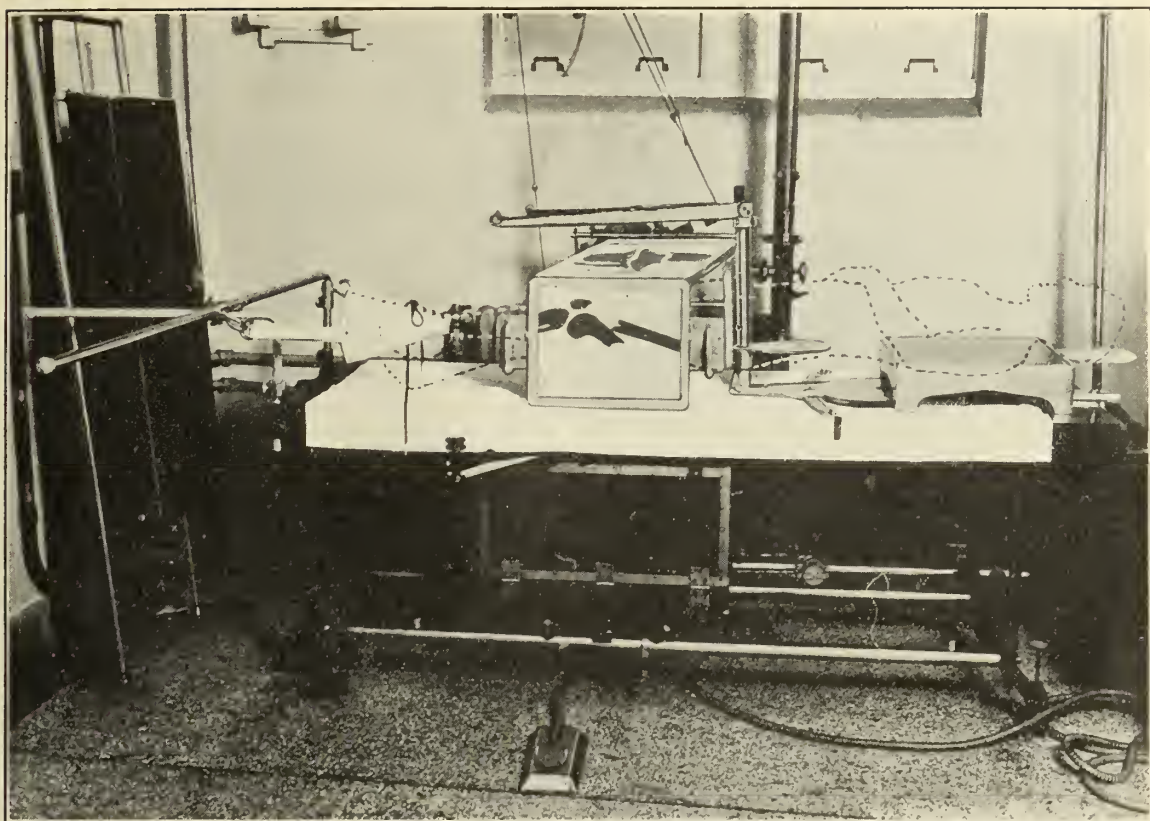


Fig. 8. Biplane view. Both tubes energized at same time. Tube under table for anterior-posterior view; tube in side for lateral view. Two fluoroscopic screens placed at right angle. Traction is made by lever while under fluoroscopic vision. (Time interval must be watched closely on account of double exposure.)

end of a fracture bed (Fig. 12). Interpose a scale between the cuff and the traction bar in order to determine the exact pull on the extremity. The extension may be increased or decreased by shifting the hook on the small lever; thus the number of pounds pull can be kept constant. The extension piece is placed in the center of the bed and attached at the head. It may be covered with a mattress. The peg is well padded and placed in the crotch.

A number of improvements have been added to the device suggested by its use. One of these is the lengthening of base D and the moving of the arcuate track nearer the head of the table so that it does not obscure shoulder and hip fractures.

The advantages of the device are:

It is extremely simple both in mechanism and operation.

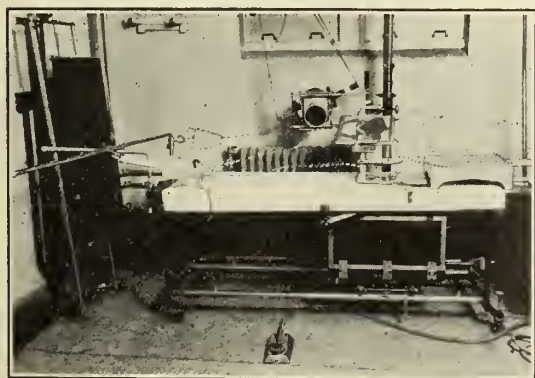


Fig. 9. Position of screen for hip fractures, application of extension with lever I. (Fig. 7.)

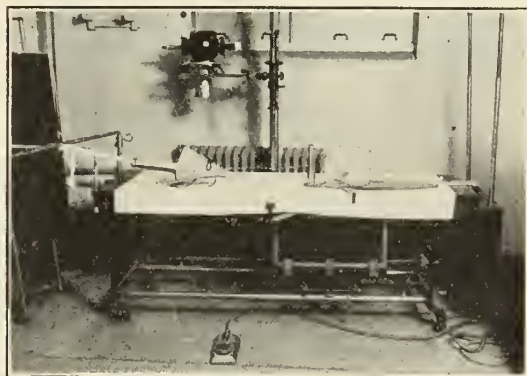


Fig. 10. Upper extremity fracture. Peg (well padded) in axilla and cuff attached to wrist while extension is made with lever I. (Fig. 7.)

SPECIAL ARTICLE

IDEALS OF THE MEDICAL CORPS,
U. S. ARMY*MAJOR GENERAL CHARLES P. SUMMERALL
CHIEF OF STAFF

WASHINGTON, D. C.

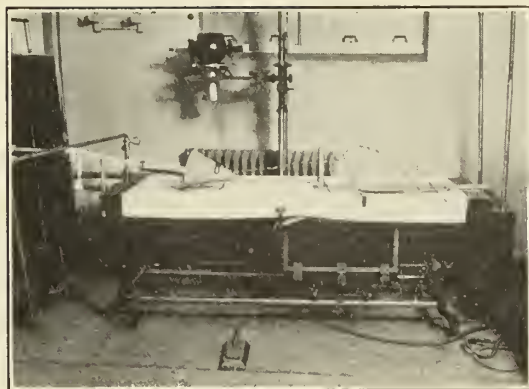


Fig. 11. Fracture of the surgical neck of the humerus. Peg (well padded) in axilla with patient on cart at right angles to X-ray table while extension is made with lever I at right angles to the body (under fluoroscopic vision).

It provides extension for fractures of both the upper and lower extremities.

It provides a simple mechanical means of extension, which should be available in the X-ray department.

It is portable; can be carried from the X-ray to the operating room, or fracture bed, or taken by the surgeon in his automobile where he may need it.

It saves time, energy, and unnecessary handling of the patient, as the fracture may be reduced, the cast applied, and the radiograph made on the X-ray table.

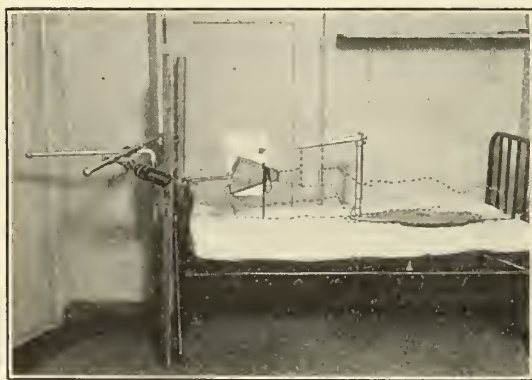


Fig. 12. Patient in position on fracture bed. Base D should be covered with mattress, peg (well padded) in crotch and extension applied with lever I, which is held in position by a hook on lever J. Scale is interposed between cuff and traction bar to determine exact pull on extremity and thus the number of pounds pull kept constant. Extension may be increased or decreased by shifting hook on small lever J. (Fig. 7.)

It saves space, as a separate fracture room or table is not necessary. (This is especially important in the smaller hospital where space is an important item.)

It is made of casted aluminum, thus is pervious to X-ray; is light and strong and will not rust or warp.

415 Metropolitan Building.

On behalf of the Army I wish to greet you as officers of the Medical Corps, which forms so important and distinguished a portion of the military establishment. There are many thousands of soldiers, officers and families unknown to you but who will be the beneficiaries of your services, who would have me speak for them in paying a brief tribute to your profession and its accomplishments in peace and in war.

The military surgeon differs from other members of the medical profession in that he must be not only a skillful doctor but a proficient soldier. The accomplishments of a succession of distinguished medical officers in each generation are an inheritance of which the Army is exceedingly proud. They are at once an example and an inspiration to you who in your turn may add your names to the list of our medical immortals. Great as is their fame, there have been others who have earned the gratitude of the Army by their faithful ministrations. At no time has the Corps been more abundantly supplied with men who were an ornament to their profession than at this moment. As surgeons, medical practitioners, specialists, and administrators, the men who today conduct our hospitals are without any superiors in their profession. Their loyalty and affection for the Army which make them devote their lives to the Service instead of accepting lucrative practice in civil life are beyond praise.

However, it is not so much my desire to place before you the examples of those who have attained distinction as to speak of the less conspicuous mass of the personnel, of which you must at first form a part. The ideals of the Medical Corps have always been high. In spite of difficulties at times in securing young men for vacancies, those responsible have wisely refused to lower the standards for admission but rather have increased them as opportunities for preparation were improved. The result has been a carefully selected group of professional men whose education, personality, and character have guaranteed superior efficiency. By affording opportunity for specializing in the Service schools, and to a small extent in medical

*Address at graduation exercises of the U. S. Army Medical School, January 31, 1928.

schools, the Medical Corps has developed specialists in every department and has kept abreast of the profession in civil life. Wise administration has been shown further by retaining the examination for promotion while the rest of the Army discontinued such a requirement. Line officers have been much impressed by the clinics and conferences that are conducted quite generally, though even in a small way, at the various posts and hospitals, thus giving evidence of the industry of men who are amply occupied with their manifold duties.

From the smallest posts and camps to the largest general hospital, the care of the sick and the preservation of health are uniformly all that could be desired. This is shown by the low sick rate, the control of contagious and preventable diseases, and the sanitary conditions that prevail. The variety of exposure in Army life requires a versatility in medical officers not generally understood. A surgeon must be able to cope with the peculiar diseases and environment of the tropics or the Orient; of the Arctic or the great cities; of the troop ships or the prisons; of the camp conditions, or the wards of a complete hospital. The care of women and children and the distribution of the Army into many small garrisons compel every medical officer to be a general practitioner, while the demands of his profession and his inclination cause him to specialize.

However great may be the task in peace it must be remembered that the real objective of an army is war. The training of medical officers no less than that of line officers must fit them for the supreme demands of campaign and battle. If I have tried to commend the Corps in peace, I can testify to its supreme accomplishments in war.

I witnessed the struggle in the camps of '98, when science had not yet come to the aid of the medical profession in the prevention of disease and when sanitation was almost an empty word. In the fighting, privations, and exposure of the Philippines and China our medical officers faced conditions that would have baffled less resourceful and less courageous men.

The supreme test, however, came in the Great War. It was not alone in the battle area, but in the organization and administration of the great camps at home and overseas that our surgeons vindicated the policy of selection, training, and discipline that had been rigorously followed. While troops of the line were afforded a period of preparation, no such tolerance or indulgence existed in the Medical Corps. From the arrival of the first contingent at the camps to the height of the great battles, the demands made upon them were only a

small per cent. of the large number of doctors suddenly called from civil life. Yet they were able to organize, train, and administer the personnel to command the great hospitals and to insure procedure in caring for the sick, developing physique, coping with unprecedented epidemics, overcoming the effects of exposure to extraordinary cold and hardship, collecting, evacuating, and saving the wounded and sustaining the morale of the Army and Country in a manner that was masterful.

In this effort to present a small appreciation of the Medical Corps I have not distinguished between the different classes of officers because the same credit belongs to each. The surgeon and the doctor, the veterinarian and the dentist each performed and must continue to perform an equally important part, and each contributed and must continue to contribute to efficiency in peace and to success in war. The dental surgeon has come to occupy a place that is unique in the restoration of health and the maintenance of the physique of our troops. As one who has spent his line service with mounted troops I can bear witness feelingly to the invaluable services of the Veterinary Corps, who made it possible for our mounted troops to perform the prodigious demands made upon them with a minimum of suffering and loss to our indispensable animals.

Nor could I omit an expression of admiration for all of the personnel of the medical department. Indeed I should place the noble women who for so many years have devoted themselves to the Service as nurses on an even higher plane than their brothers. In peace and in war they have transformed our hospitals and even our field stations into establishments incomparably superior to those of the period when nurses were not provided. No one who saw the distressing conditions of '98 can look back upon the ministrations of our nurses today and in the years that have passed since then with feelings other than those of devout thankfulness.

Of the enlisted men of all grades I can only say that they have reflected worthily the leadership of their officers. They have been soldiers in the best sense of the word and the Service has never failed to admire and acknowledge their fidelity and their courage.

If I have stated what no doubt is well known to this audience, it is for the purpose of emphasizing the honor that comes to this class in becoming a part of so worthy a branch. You have prepared yourselves by years of study in schools and colleges, culminating in the course at this great medical center. You are now to receive your reward in the diplomas to be presented and in the full recognition of your further qualification as medical officers. You

will continue your preparation by adding to your technical knowledge a practical and theoretical experience in the handling of troops, field operations, sanitation, and other subjects which are peculiar to the military man, and without the mastery of which the best of doctors may fail in the profession of arms.

While I congratulate you most genuinely, I would urge you to a realization of your opportunities and your status. The army may not offer you financial gain, but it has brought your predecessors an intangible compensation that they prefer to material rewards. You are the inheritors of tradition and great achievements. You share an honorable status that commands respect and confidence. You have opportunities for progress not open to those who went before you but who by industry and zeal succeeded in spite of isolated stations and exacting duties. If you become dissatisfied the fault will be yours because there are no nobler men than those who have created your environment and who have lived happily in it. You will be contented in proportion as you are interested and efficient; you will make friendships in proportion as your personality is responsive and sympathetic; and you will receive from the Army reputation and professional distinction in proportion as you give the best that is in you.

May success attend each of you during the allotted years of service.

(From the *Bulletin Medical Department Reserve Seventh Army Corps Area*.)

EXPERIMENT IN APPLICATION OF DIABETIC DIETETICS

M. F. DeLorme, New York (*Journal A. M. A.*, July 2, 1927), outlined a plan adopted in Brooklyn for applying diabetic dietetics under adequate control. In the center of the retail business section of the city was opened what is called a "Diabetic Dining Room." It is conducted by a clinician with the assistance of a competent dietitian who has had special training in diabetic dietetics. Patients are not accepted unless referred by a registered physician, and no treatment of any kind is suggested except in the report to the physician. If requested by the physician, the patron will be instructed in the administration of insulin. Special effort is made to provide an attractive service. In addition to the standard foods, such delicacies as the market affords are served. This impresses the patients with the fact that they are not doomed to a routine. On admission, the normal basal metabolic rate (Boothby and Sandiford) is determined, and instruction in food value calculation and in the "home testing" of urine is begun. A table of calorific values of the ordinary foods is supplied and the patient is required to memorize most of it—not a difficult task. A card prescribing carefully stipulated breakfasts to be taken at home is provided, and the patient is told to follow carefully the stipulations and report the next day for his midday meal, when the actual dining room routine is begun. Only midday and evening meals are given in the dining

room. At each meal the patient himself is required to calculate the food value of each portion served. Of ninety-seven patients who completed the course, sixty-two were women and thirty-five were men. One was a 13 year old girl. Eighty-nine of these patients continued at their usual work. Twelve required insulin, and all were taught to administer it to themselves. Six discontinued the use of unnecessary insulin. There were five cases of renal glycosuria. Seventy patients had ++ or more of acetone on admission. Five had severe cases of diabetes and should have been in a hospital, but they refused to go, "having been there previously." Nine days was the average time spent at the dining room, and the average cost to the patient was \$22. Contrary to expectation there was very little disposition to violate rules; instead, 90 per cent. became enthusiastic in their cooperation and many of them today are remarkably proficient even in the larger aspects of the science of dietetics. The "laboratory work," as one patient termed the dining room drill in calculations, was a source of genuine interest and qualified all the patients to feed themselves at home with accuracy. All patients are told that they will be required to feed themselves at home, keeping full records for a week before being discharged, and most of them proved capable of doing so when the test-period reports came back. Special stress is laid on the avoidance of gluten foods, and all are encouraged to take the same food prepared for other members of the household. Without exception, all who completed the course have been markedly benefited; the blood sugar in all the mild cases has fallen to near normal; the obese have lost weight, and the underweight have gained. The plan is not complicated and may be employed in any hospital providing a dietitian trained in diabetic dietetics.

PSEUDO-EPITHELIOMATOUS HYPERPLASIA AT MARGINS OF CUTANEOUS ULCERS

Eight chronic cutaneous ulcerations supplying such radical pseudoeplitheliomatous appearance as to require more than passing examinations of the sections are reported by Cleveland White, Buffalo, and Fred D. Weidman, Philadelphia (*Journal A. M. A.*, June 18, 1927). These cases show that every gradation of hyperplasia occurs among such ulcers, even to those which mimic early epithelioma perfectly, as expressed histologically. At some of the early stages, and even when definitely developed, it may be impossible to distinguish squamous-cell cancer histologically from nonmalignant hyperplasia; there are thus definite limitations to the recognition of earliest cancer which are most unfortunate because they are so important to the patient. The authors believe that the diagnosis of carcinoma under these circumstances is unjustified except when the infiltration extends to the level of the sweat glands or farther, and when the pathologist has had extended acquaintance with the behavior of hyperplastic epiderm in general. It is felt that numerous cases diagnosed in the past as beginning carcinoma at the margins of ulcers have been only exaggerated regenerative hyperplasias, and that unnecessarily radical treatment has been inflicted on patients, as in breast cases which McFarland has shown to be only senile or abnormal involution. Therefore, the premises on which cancerous changes at the margins of such ulcers have been postulated in the past deserve reexamination in this new light; i. e., whether on a histologic basis alone or supported by supplementary clinical features.

THE JOURNAL

OF THE

Missouri State Medical Association

JULY, 1928

EDITORIALS

TOLMAN WHITE COTTON, M.D.

PRESIDENT-ELECT, MISSOURI STATE MEDICAL
ASSOCIATION 1928-1929

When the time came for the Association to elect its President-Elect this year we went down into the Ozarks and there among the hills in Southeast Missouri and on the banks of that clear, swift running stream, the Current River, in Van Buren, Carter County, we found the man.

Dr. Tolman White Cotton is of Scotch-Irish descent, that sturdy stock from which has sprung so many of America's distinguished citizens. His ancestors were from Tennessee. About 1844 a younger generation followed the trail westward in ox-wagons till they came to the woods of Reynolds County, then a part of Ripley County. There they settled and there on a farm August 12, 1868, Dr. Cotton was born. He grew up on the farm, attending school in the autumn and early winter until he was seventeen. But he was not content with this. At 18 we find him teaching school and earning the money to attend college in the winter. He was a student for three years at Carleton College, Farmington, Missouri, and for one year at Concordia College, Gravelton, Missouri. This completed his college education, and he was eagerly looking forward to the time when he could enter upon the study of his chosen profession, medicine. He became a medical student in 1890 leaving Reynolds County and moving to Van Buren where he has since made his home.

In 1893 he graduated from the Beaumont Hospital Medical College in St. Louis and began the active practice of medicine at Van Buren. That he might better equip himself for his work he took postgraduate courses at the Chicago Polyclinic in 1895, the New York Polyclinic in 1896, the New York Post Graduate School in 1897, and the New Orleans Polyclinic in 1898. Later on he took postgraduate lectures at Barnes Medical College, St. Louis, the Chicago Polyclinic and in London.

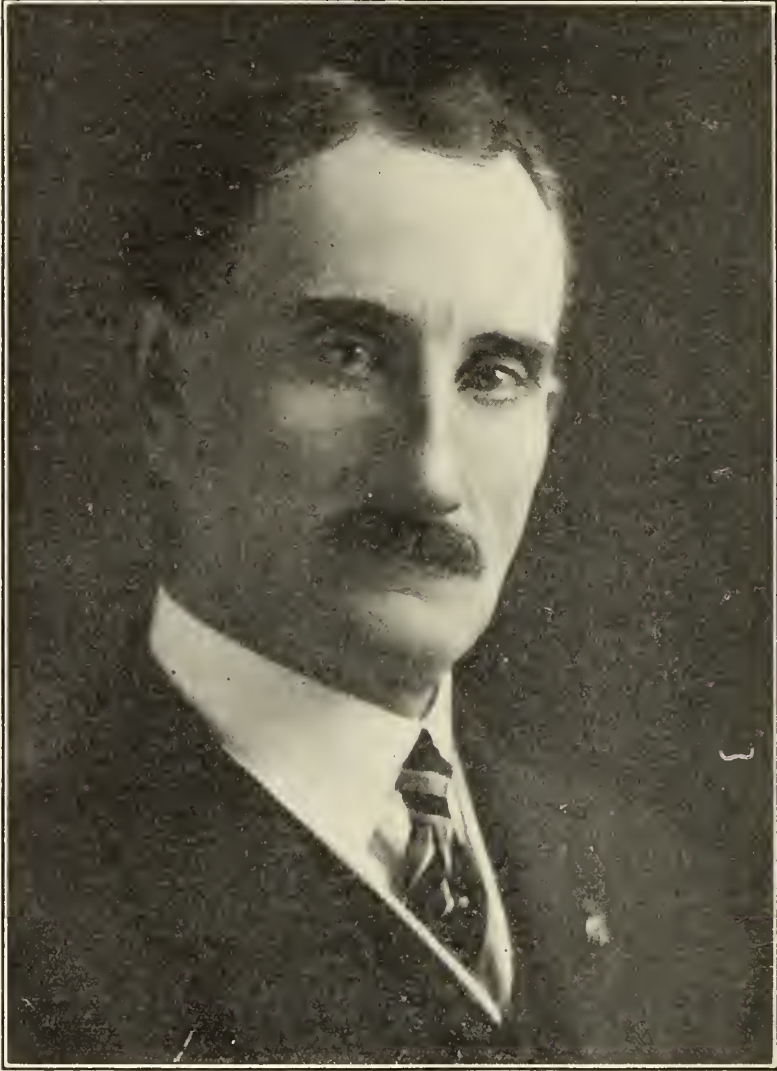
He is a past president of the Southeast Missouri Medical Association and for twenty years has been Councilor of the 24th Councilor District and has been one of the most active mem-

bers in the work of the State Association and faithful in his attendance at the Annual Meetings. He has been very successful in his profession and enjoys a large and lucrative practice. He is very popular not only among the members of his profession but among the people generally because of his work for better sanitary and health conditions and his active interest in all those things that tend to make his community a better place in which to live.

He was chosen health officer of Carter County in 1902 and among the first things he did was to start a campaign for better sanitary conditions. Inspections and a house to house visit in all the towns resulted in a very marked improvement in the sanitary conditions. There has not been a single case of typhoid fever in any town in his county for years. Every railroad station had toilets long before the state board took the matter up. His was one of three counties in the state that ten years ago made a physical examination of every school child. Among other things this examination showed 115 cases of trachoma; as an indication of the value of his work these were so reduced by clinics and treatment that the last inspection showed only 11 cases. His clean up campaign, as all new things do, met with opposition but the people soon realized the advantages of better sanitary conditions and gave him their enthusiastic support. He has been health officer ever since. He is local surgeon for the Frisco Railroad and for the Missouri Pacific Railroad and examiner for numerous life insurance companies. With the exception of four years he has been coroner of his county since 1900.

While busy in his profession he has always found time for other things serving as president of the Van Buren and Carter County Chambers of Commerce. It was largely due to his efforts that the state obtained the Big Spring State Park in Carter County, which is one of the largest and finest of the state parks. When the Ozarks Chamber of Commerce, to develop and advertise that section, was organized in 1925 he was elected its president and re-elected in 1926. He was a pioneer in the "Good Roads" movement. Back in 1917 when his county, one of the first in the state, voted bonds to build roads he was chairman of the citizen's committee to campaign for the bonds. In 1915, long before the state began its road building, he helped to organize and was chosen president of the Southern Missouri Cross State Highway which had for its object the improvement of a highway across the southern part of the state from Cape Girardeau to Springfield.

During the war he was chairman of the 4 minute men and a member of the selective



(C.T.)

TOLMAN W. COTTON, M.D.
Van Buren
President-Elect 1928-1929

draft board. For a number of years he served as president of the board of education of his town and was for a long time superintendent of the Methodist Church Sunday School. He is a Past Grand Patron of the Eastern Star of the state, Past Grand Master of Masons of the state and has been since 1915 a member of the Masonic Home Board.

That he has lived a busy life will be realized when it is known that in addition to his professional work and the time devoted to public matters he is also president of a bank, a mercantile company, and owns and operates a two hundred acre farm.

Dr. Cotton was married in 1895 to Miss June Lee, of Van Buren. To them have been born three children, two daughters, Gladys, who died in 1923, Thelma, a medical student at Washington University, and a son, George S., who is a student at Southwest Missouri Teachers College at Springfield.

WHY THE COST OF MEDICAL CARE?

An exhaustive study of the utmost importance to the medical profession and the laity has been organized as the Committee on the Cost of Medical Care. The personnel of the committee includes famous men in private practice, outstanding directors of public health, heads of institutions and organizations, economists and representatives of the general public. Its course has been mapped out in detail for a five-year period. The initial announcement has caused a flurry of favorable attention throughout the country. It has several echoes within the state, and its findings may throw light on a few current perplexities of Missouri physicians.

The average man who makes any effort to pay his bills finds it more than difficult to meet the cost of medical services. The same doctor whose bill he is scarcely able to pay is finding it quite as difficult to pay *his* bills, present the "front" demanded of a physician, and keep himself and his family in ordinary comfortable style at home. Plainly there is something radically wrong in this situation. It is easy to see that a layman might be bled by bills which would make his doctor rich, or that a doctor should suffer through failure to charge enough. That both should suffer is difficult to conceive, yet it is a fact which every one knows. Just what is behind it, and what can be done about it, the committee intends to discover. Studies to be given priority in the course include:

The diseases and conditions responsible for human disability and inefficiency.

Existing facilities for the treatment and prevention of disease and defectiveness—a statistical study.

Surveys of the medical services of a large city, a small city, and a rural community.

The cost of sickness, during a twelve months' period, among various representative population groups, including the incidence of sickness.

Capital investment and income in private practice.

Capital investment in hospitals and clinics.

Organized medical service in industry and in universities.

Pay clinics and group clinics.

Other studies no less important include the most serious causes of inability and inefficiency, the proportion of persons not disabled but in need of medical service, the influence of specialization on the cost of medical service, the cost of adequate medical service for a family for one year, new state, municipal and county hospital services for persons who are not indigent, visiting nurse societies, school health service, the extent of private medical service on a yearly basis and existing types of health insurance in the United States.

A few physicians and other interested began discussing these problems in 1925. Fourteen persons met in Washington on April 1, 1926, and appointed a committee of five to formulate a tentative series of studies. It performed that task, communicated with a number of physicians, sanitarians, and economists, and arranged a conference in Washington when the American Medical Association met there in May, 1927. From the conference came the Committee on the Cost of Medical Care. It is supported by the Carnegie Corporation, the Milbank Memorial Fund, the Russell Sage Foundation and the Twentieth Century Fund, which have provided \$45,000 toward the first year's \$60,000 budget. The annual budget for the four following years is expected to exceed \$75,000. The American Medical Association is planning to make one or more important studies at its own expense and it is hoped that other agencies will cooperate.

While it is expressly stated in the announcement that the Committee will begin its work with no preconceived theories, it makes clear that it considers the problem to be of greatest interest to the 75 to 90 per cent. of the population who have moderate means yet pay their bills, and of little interest to the relatively small group of rich people who can pay anything the doctor asks and the similar group of poor people who get the best medical service without being asked to pay anything. It is quite possible that the committee may find food for thought in the economic strain of carrying the charity group and also those who simply will not pay doctor bills.

The high cost of medical service causes many

people who are in need of it but will not accept charity, to go without it, as shown in a recent study conducted among 117 employees of the Bureau of Labor Statistics in Washington. The survey showed that the annual expenditures for medical service, covering a salary range from \$1,000 a year to \$4,400, ranged from \$1.60 to \$810. The latter figure was for an employee whose salary was \$2,100. The average per cent. of salary spent this way was 6.2. The average per capita expenditure was \$86.65 a year or \$350 for a family of four.

Possibly the most hopeful aspect of the committee's task is that the present state of affairs is so obviously and completely wrong. It is difficult to imagine any intelligent study in so fertile and indeed so rank a field that would not unearth at least one of the roots of the trouble, and it is difficult to imagine that at least some of these roots will not be easily eradicated. The Committee promises to report from time to time as the work goes along. We shall watch for its publications with interest, and with more than a slight degree of faith that it will achieve results of definite benefit to the public and the profession.

THE INSANITY REBUS

The ridiculous spectacle of hired alienists solemnly declaring, for the defense, that defendant was clearly insane, and for the state, that defendant clearly was in possession of all his faculties, is beginning to provoke some reaction. A Department for Mental Diseases for Missouri and the abolishment of such silly and disheartening shows was urged at the May meeting of the Association in Columbia. The New York Court of General Sessions has called for an \$8,900 appropriation for a psychiatric clinic. The Medical Subcommittee of the National Crime Commission has issued a special report, stimulated by the Remus trial in Cincinnati, calling attention to "the utter absurdity" of letting the average jury pass on questions of sanity—a thing which had not entirely escaped previous notice—and to the less known fact that Massachusetts and Colorado already have taken steps somewhat like that suggested for Missouri. It would be audacious to deny that the situation is pretty bad. Possibly, however, we may be permitted to doubt that the remedy is entirely clear; even, in fact, that there is any one definitely known remedy or any which gives the assurance of functioning without a hitch. What we are attempting to say is that in the present or any immediately predictable state, not only of psychiatry but of the courts, the situation is far from simple; it is infinitely complex. It is improbable that it can be solved forthwith, *a priori*, without a long and trying process of trial and error.

The Massachusetts plan, however, seems to have worked out gratifyingly in one respect at least. Its sponsor reports that alienists have been employed by the defense in less than one case a year since the plan was adopted in 1921. The laws there require that the State Department of Mental Diseases determine the existence, or nonexistence, of any mental impairment affecting the criminal responsibility of any one indicted for a second offense or for capital crime. The Colorado law provides for a 30-day commitment for observation of persons pleading insanity and allows the judge to appoint one or more physicians to examine the defendant in that period in preparation for giving testimony.

The subcommittee also calls attention to recommendations of the American Psychiatric Association including: that the disposition of all criminals be based upon study of the individual offender by properly qualified and impartial experts cooperating with the courts; that such experts be appointed by the courts with provision for remuneration from public funds; that prisoners be discharged or released upon parole only after complete and competent psychiatric examination with findings favorable for successful rehabilitation, and that the incurably inadequate, incompetent and antisocial offenders be interned permanently without regard to the particular offense committed.

The last recommendation is one of the crucial points. Is that precisely the thing to do with the defendants so classified? Are all psychiatrists—without prejudice to the many impressively capable men in that line—precisely the arbiters to pass on this classification? And has every one a definite idea, and the same idea, of precisely what should be done with the multitudinous, subtly graduated other classifications? We do not know but we do believe that not all the possible questions have been settled.

In the Remus case there was testimony of fair credibility, including that of probably the most intelligent lay witness in the case, that Remus was obsessed with his wife's infidelity, that he did become "crazy as a cuckoo," as this witness said, at the thought of it. Quite plausibly that obsession was cleared up by the murder of his wife. But explaining a fact does not explain it away. Showing a reason for murder does not wipe out the fact that there was murder. The very line of evidence which lawyers for the prosecution once called "establishing a motive" now is introduced by the defense, in much more elaborate style and diction, to excuse the murder. Should Remus have been hanged for a deliberate killing? Should he have been committed to an insane asylum for life? Or should he have been

turned out scot-free, as in fact he was a few days ago? The first would punish him for murder. The second would protect society. The third would perfectly fit the diagnosis of his case and the cure achieved though it was by the culpable method of using a revolver to remove the human cause of the maladjustment. We doubt that any one of these is an absolute answer to all the elements involved. We also doubt that any one else has the absolute answer to this case and a great many others.

The question goes into fundamentals vastly deeper and more far-reaching than the disposition of any criminal. Is the psychiatrist to sentence the criminal to a fit punishment? Then possibly Remus would have been hanged. Or is the Judge to prescribe for the criminally ill? Then probably Remus should have been freed in open court, for the act for which he was placed on trial had released his murderous fixed idea; he was "ill" no longer. Or are the Judge and the psychiatrist together to dispose of the case, not to punish the offender, not primarily to cure him, but to protect society? Then it is an open question whether Remus' nefarious operations, aside from the offense charged, would justify that he be "interned permanently," since there was nothing in the murder itself to argue that he was likely to repeat it. The person he desired to kill was dead.

No, it seems not yet entirely clear that there is just one tenable position to take in this melange of uncertainties, just one way open, straight and broad, through this maze. The solution advanced by the American Psychiatric Association does tend to supersede some functions of the jury. The jury is in many cases a deplorable thing. The jury also is essential to our governmental philosophy. The law and the insanity defense do work out absurdly. The law is on the whole the most solidly grounded thing we have now to go by, and the law would be revolutionized, no less than that, by the changes suggested.

In this congeries of dilemmas, any one of which should be sufficient to stagger a nation, it may be well to tread lightly. But so far as human experience has shown, the prerequisite to learning anything is to make mistakes. It is probably time for us to begin making our mistakes. It is up to us to make them circumspectly and along lines to produce the smallest possible damage and the greatest possible profit. Whether every state should turn over its courts to psychiatry may be open to debate at this stage of our wisdom. But it is of value that a few states should make the initial step that others may watch and learn. Our Association is advocating that Missouri be one of these pioneers by the establishment of a Department of Mental Diseases.

MARTYRS TO MEDICAL SCIENCE

The battle of medical science against yellow fever has claimed two more martyrs, the distinguished Dr. Hideyo Noguchi and his co-worker, Dr. William Alexander Young. A third, Dr. Adrian Stokes, succumbed to West African fever last September. A few months earlier it had taken the life of R. Guillet, a French scientist. Five other men have laid down their lives for science in the last few months, three roentgenologists, an investigator of tuberculosis immunization and an anesthesiologist.

Dr. Noguchi was one of the greatest bacteriologists of this day and one of the ten most distinguished Japanese. He had isolated the germ yellow fever and was attempting to eradicate the African type when he became infected. Apparently recovering, he had some of his blood injected into a monkey. The animal died and in it he believed he had found the germ he sought, which, he reported, was much more deadly than the South American. He was striving to perfect his notes by further experiment at Accra, West Africa, when he was stricken again and died on May 21.

Dr. Noguchi was born 51 years ago in Japan and was graduated from Tokyo Medical College at 21. In 1918 he was appointed to the Rockefeller Foundation commission on yellow fever. He virtually exterminated the disease in Ecuador. He had originated a bacteria-free smallpox vaccine and isolated germ in trachoma. He had been honored by several nations and many universities.

Within ten days after the death of the noted Japanese, Dr. Young, director of the Gold Coast Medical Research Institute of Yellow Fever, died of the disease at Accra. He had served on the Tsetse Fly Commission in Nigeria in 1923, and was appointed to the yellow fever institute the following year at the comparatively early age of 35. Dr. Stokes, a member of the Rockefeller Yellow Fever Commission, died of the disease last fall at Lagos, West Africa.

On the same day that Noguchi died, Dr. Alvaro Alvin, of Brazil, who had lost both hands through X-ray burns, was added to the long list of men who have sacrificed their lives to the early development of radiology. Similar researches caused the death of Dr. Maxime Menard in Paris a few months ago. George C. Williams died of X-ray burns in London after 40 operations.

On the theory that he had built up a resistance to tuberculosis, Dr. Alexander Bogdanov, a Russian, transfused the blood of a tuberculous student to himself and died. Dr. S. Rawson Wilson, an Englishman seeking a gen-

eral anesthesia which would permit the patient to remain conscious, died while experimenting on himself.

The list is not yet closed. Many more will go, in far-off corners of the world, in skyscraper laboratories, in shabby and half-equipped offices in obscure little towns. But the death of every one may mean life for thousands who come after them.

ST. LOUIS PHYSICIANS URGE MUNICIPAL BOND ISSUE TO CARE FOR TUBERCULOUS PATIENTS

The vital movements for a \$2,450,000 bond issue to remedy the lamentable tuberculosis situation in St. Louis continues to gain support. While there appears no disposition in any quarter to question that the cause is just, it has become obvious that it needs every bit of support that can be mustered. There has been some discussion of delaying the vote until after the November election. So far there appears no definite argument for the delay except that of political expediency. That, however, is a difficult factor in any objective which must be attained through political means, and it is reinforced by the natural force of human inertia, especially political inertia. On the other hand, it has been conclusively shown by surveys through half a dozen agencies, from inside and outside the city, that the situation is an emergency and requires immediate steps. Latest to get behind the movement is the Community Fund. The Tuberculosis and Health Society has set aside a fund to employ nurses in the emergency and announced that it will demand special temporary measures if the bond issue is left off the November ballot. The efforts of the St. Louis Medical Society in enlisting these organizations are to be commended and every physician should give it a backing to insure that the proposition, unless a better reason is advanced than has appeared, shall not be left off the ballot.

MINNEAPOLIS SESSION OF THE A. M. A.

The 79th Annual Meeting of the American Medical Association, held in Minneapolis, June 11-15, was a most enjoyable meeting from every standpoint. The scientific sections maintained the high character of contributions that we usually expect to hear at this annual gathering, the scientific exhibit surpassed anything presented at previous meetings, the House of Delegates held harmonious sessions and approved movements having far-reaching effects upon the welfare of the organization

as a whole and the individual practitioner, the weather was practically perfect during the entire session, and the hosts were over-generous in their attention to the wants, comforts and entertainment of the visitors.

The address of the retiring President, Dr. Jabez N. Jackson, Kansas City, was received with hearty approval, the Reference Committee of the House of Delegates saying:

Your committee commends the admirable address of the President, his review of the scientific and material development of medicine and his protest against the exploitation of the physician in the abuse of medical charity, heartily approves his declaration "that the time has come (1) when no institution or clinic should permit its attending physicians to be imposed on; and (2) when, whatever the social or other advantage to the physician in the clinic, he should not be permitted to contribute to what is a gross injustice to the profession as a whole."

The House of Delegates elected Dr. Samuel C. James, Kansas City, an Affiliate Fellow on nomination by the Missouri delegates. Dr. James is now living at Gulfport, Mississippi, having retired from active practice on account of ill health.

In the election of Dr. Malcolm L. Harris, Chicago, as President-Elect the House of Delegates honored a man who has been untiring in his efforts to maintain the high efficiency of the organization ever since the Association was reorganized in 1901. He was a member of the House of Delegates at that time and has had a seat in the House continuously as a delegate, as a member of the Board of Trustees or as chairman of the Judicial Council which latter position he has held since 1918. Dr. W. A. Jones, Minneapolis, was elected vice president and, of course, Dr. Olin West, Chicago, was re-elected secretary with many outbursts of enthusiastic approval. Dr. F. C. Warnshuis, Grand Rapids, Michigan, was re-elected speaker and he also received an ovation from the delegates. Portland, Oregon, was selected as the place of meeting for the 1929 session.

The House of Delegates adopted resolutions of sympathy to Dr. W. J. Ferguson, Sedalia, and Dr. E. P. North, St. Louis. Dr. Ferguson was prevented from attending the meeting on account of illness and Dr. North was injured in an automobile accident at Minneapolis which prevented him from attending several sessions of the House. Resolutions of sympathy were also sent to Dr. Louis J. Hirschman, of Michigan, Dr. W. L. Donaldson, of Pennsylvania, and E. Eliot Harris, of New York, all of whom were prevented from attending

the House of Delegates on account of illness.

The registration at the session reached almost 5,000, the number from Missouri being 140.

TRIBUTE TO THE MEDICAL CORPS

On another page* appears an address by Major General Charles P. Summerall, Chief of Staff of the Army, delivered at the graduation of the U. S. Army Medical School, January 31, 1928, which is considered of significance.

To those conversant with actual facts, it is well known that never in the history of the U. S. Army has the Medical Corps enjoyed the satisfactory respect, appreciation, and cooperation by the associated services, such as it does today. It is regrettable but true that this appreciation would not have been rendered even so recently as the Civil War or the Spanish-American War. Long delayed adequate recognition of the Medical Corps, by the Line, has been both unfortunate and irritating; but it is gratifying that it is now in evidence. That it is voiced by none less than the Chief of Staff stamps it with the highest authority.

It is believed that the many distinguished officers of the Medical Reserve Corps will greatly appreciate General Summerall's opinion; they may also justly feel that their own achievements, their own professional status, and their well known cooperation have, in no slight measure, contributed to the present enviable recognition of the Senior Corps thus felicitously honored.

* Page 318.

NEWS NOTES

Formal opening of the \$50,000 negro tuberculosis sanatorium at Mount Vernon took place on May 26. Three patients then were in the hospital, which has a capacity for 24.

Dr. George W. Becker resigned his place as police department surgeon in St. Louis, which he has held for the last twelve years, in order to enter the Republican primaries for the nomination for coroner of St. Louis.

Dr. Edwin Partridge Lehman, Professor of Clinical Surgery in Washington University School of Medicine, St. Louis, has been appointed head of the department of surgery and gynecology in the University of Virginia. Dr. Lehman, who has conducted research work in bone fractures and intestinal obstructions, will assume his new duties September 1.

Dr. Louis H. Behrens, St. Louis, delivered the commencement address in the recently completed Community High School of Gillespie, Ill., the town where he obtained his early education.

Dr. W. T. (Pat) Coughlin, St. Louis, was a guest of the Wayne County Medical Society at Detroit, Michigan, on May 16, and gave an address and clinical demonstration on "Trifacial Neuralgia Major—Tic Douloureux."

Dr. D. P. Dyer, Sedalia, has been appointed director of the Free Emergency Hospital at the Missouri State Fair, August 18-25, 1928. He has had charge of the State Fair's Hospital for seventeen years.

Dr. L. C. Edmonds, Sedalia, who recently became associated with Dr. Dyer, will be assistant superintendent. Other members of the staff are Mrs. Grace Hosford and Miss Nomah Large, of Sedalia.

Mrs. John O. McReynolds, Dallas, Texas, retiring president of the Woman's Auxiliary of the American Medical Association, announced last year on assuming the presidency that she would offer a prize of \$100 to the state Auxiliary which sent in the largest number of annual subscriptions to Hygeia and \$50 to the county Auxiliary sending in the largest number. At the Minneapolis session Mrs. McReynolds announced that Missouri had won the state prize and that Cass County, Missouri, had taken the county prize. Mrs. A. B. McGlothlan, St. Joseph, was chairman of the Missouri Committee in charge of Hygeia and Mrs. D. S. Long, Harrisonville, was chairman of the Cass County Committee on Hygeia.

The United States Civil Service Commission announces open competitive examinations for associate zoologist and assistant zoologist, junior zoologist and scientific aid in parasitology. Applications for the first two positions must be on file with the Civil Service Commission at Washington not later than June 27, and applications for the latter two not later than June 26. The examinations are to fill vacancies in the Bureau of Animal Industry, Department of Agriculture, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications. Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or the secretary of the United States civil service board of examiners at the post office or customhouse in any city.

Dr. Frank I. Ridge, President of the Missouri State Medical Association, was elected president, and Dr. A. W. McAlester, Kansas City, vice president, of the Missouri University Medical School Alumni at its annual meeting at Columbia, May 15, 1928.

The highest grade ever made in the Women's Safe Drivers School, conducted by the St. Louis Safety Council, was made this year by Mrs. C. H. Neilson, St. Louis, wife of the president of the St. Louis Medical Society. Her average was 99 1/3. It won her a silver cup presented at a luncheon last month at Hotel Chase.

Dr. Emmett P. North, former president of the State Association and of the state board of health, suffered three rib fractures and painful body bruises in an automobile accident at Minneapolis, June 12. He was crossing the street with Drs. W. C. Gayler, St. Louis, and A. R. McComas, Sturgeon, when he was struck by a motor cycle. He spent a week in St. Barnabas Hospital, Minneapolis, and then was brought to Jefferson City, the home of his wife's parents, in the private car of Mr. A. W. Nash, president of the Minneapolis and St. Louis Railroad.

Dr. Morris Fishbein, Chicago, editor of the *Journal of the American Medical Association*, gave some of his views on the cost of medical care in an address at the Jewish Hospital School of Nursing commencement, St. Louis, May 31. He said that one cause was the increased use of modern appliances in hospital diagnosis and care, although they saved the patient money in hastening his recovery. He said that only the very wealthy or the very poor could afford the best medical care but that the very wealthy had the best of it in that they could provide the extra nursing care which might mean the difference between life and death. The great middle class, he remarked, for its less serious ills temporizes and goes to the drug store for diagnosis and treatment.

One of the subjects to be taken up by the Committee on the Cost of Medical Care is a problem before the state board of health right now. Although the latest check shows that there is one physician to every 608 population, many Missouri communities are without medical service. As a corollary, many physicians are without a practice. The state board is making a survey for its information in aiding them to get together.

Yale University conferred the honorary degree of Master of Science upon Dr. Evarts A. Graham, St. Louis, Professor of Surgery in Washington University School of Medicine and co-editor of *Archives of Surgery*, at commencement, June 20.

The Nursing School of the St. Mary's Hospital group, founded in 1907, has been taken over by St. Louis University. A three-year course for a certificate in nursing and a five-year course for the degree of Bachelor of Science in nursing will be offered. A high school diploma will be required of applicants for either course. A nurses' home is to be built south of the medical school.

Dr. R. B. H. Gradwohl, St. Louis, Lieutenant Colonel of the United States Naval Reserve, spent several weeks, from April 12 to May 20, with the United States Fleet in Hawaiian waters and while there had the opportunity to visit Queen's Hospital, a very modern institution with a 300-bed capacity under the direction of Dr. Larson. In the corridor of this hospital there is an oil painting of Queen Emma, one of the queens of Hawaii, and Dr. Larson said this is the only hospital in the world founded by royalty. Dr. Gradwohl visited the leper colony at Molokai which with the colony at Carville, Louisiana, one in the Philippines, and one in the Canal Zone, are the leper colonies supported by the United States Government.

The new West Hospital at Monett, owned and operated by Dr. W. M. West, was opened to the public May 1, 1928. For the past fourteen years Dr. West has conducted a hospital at Monett gradually improving and adding to his equipment. This new hospital is an attractive, modern, two-story building with thoroughly up-to-date equipment and laboratories. In the basement are the kitchen, laundry, pantries, furnace and fuel rooms, employes' quarters and several well furnished rooms which can be used for hospital needs when necessary. The operating and sterilizing rooms and the laboratory are on the northeast side of the building. The west section is reserved for rooms for patients, well lighted and attractively furnished. This department has a capacity of eighteen beds arranged in private rooms and in two-bed wards. The sterilizing room and operating room are done in white enamel with white tile walls. The floors of the hospital are polished hardwood and the walls are finished in a restful shade of green.

The Southeast Missouri Medical Association will hold its next annual session at Farmington, October 22, 1928. Dr. E. J. Nienstedt, Blodgett, is the corresponding secretary.

A \$5000 endowment for a bed for messenger boys, as giving services worthy of public recognition, has been given to St. Luke's Hospital, St. Louis, by Mrs. George F. Bergfeld, St. Louis, in memory of her husband, who was a real estate dealer.

The two hospitals of Hannibal will double their capacities within a very few months. St. Elizabeth's Hospital, conducted by the Sisters of St. Francis, is building a \$75,000 addition to be completed this summer. A \$100,000 gift for an addition to Levering Hospital has been announced by W. B. Pettibone, banker and lumberman, for an addition to be started within a few months. Mr. Pettibone already had given the hospital several cash donations and a large tract of ground. The latest gift raises his total benefaction to his community to \$600,000 or more. They include the \$250,000 Laura Jones Pettibone Memorial School, commemorating his wife, a 125-acre park overlooking the Mississippi River, costing \$125,000, besides \$10,000 a year for upkeep, four school playgrounds, a small park and many gifts to churches.

The accelerated growth and strengthening of Washington University School of Medicine was strikingly demonstrated in the number of appointments and promotions announced at commencement. Dr. Lee Wallace Dean was appointed Professor of Otolaryngology, a position which will associate him with Dr. H. J. Howard, Chief of the Department of Ophthalmology, in the projected McMillan Eye, Ear, Nose and Throat Hospital. Construction of the hospital waits upon financing of equipment and maintenance. The building proper was provided for in the will of Mrs. Eliza McMillan thirteen years ago. Her bequest has generally been spoken of as \$1,000,000, but an officer of the University Corporation in a commencement address implied that the amount now was materially larger.

Dr. Dean, as full time professor, also will be associated with Dr. Greenfield Sluder, who after 25 years is retiring from administrative duties to devote more time to private practice but will retain a clinical professorship. Dr. Dean is past president of both the American Otological Society and the American Laryngological Association. He

was Dean of the University of Iowa School of Medicine.

Dr. J. J. Bronfenbrenner, of the Rockefeller Institute, formerly of Harvard University and the Pasteur Institute in Paris, was appointed Research Director in Bacteriology.

Dr. Malvern B. Clopton, formerly assistant professor, was made Professor of Clinical Surgery. The promotions in the medical school include: Dr. Glover H. Copher, from assistant professor to associate professor of surgery; Dr. Edward A. McCordock, from assistant professor to associate professor of pathology; Dr. Ethel Ronzoni, instructor to assistant professor of biological chemistry; Drs. William H. Mook and Richard S. Weiss, instructors to assistant professors of clinical dermatology; Dr. William J. Dieckmann, instructor to assistant professor of obstetrics; Dr. Arthur S. Gilson, Jr., instructor to assistant professor of physiology; Dr. Warren H. Cole, instructor to assistant professor of surgery; Dr. Joseph W. Larimore, instructor to assistant professor of clinical medicine; Dr. T. Kenneth Brown, assistant to instructor in obstetrics; Dr. Bernard J. McMahon, assistant to instructor in clinical otolaryngology; Dr. Helen Tredway Graham (Mrs. Evarts A. Graham), assistant to instructor in pharmacology.

The following articles have been accepted for New and Nonofficial Remedies:

H. K. Mulford Co.

Diphtheria Toxoid—Mulford

Parke, Davis & Co.

Glaseptic Ampoules Solution Glucose, 50 per cent., 20 cc.

Glaseptic Ampoules Solution Glucose, 50 per cent., 50 cc.

Stearodine

Stearodine Tablets

Pasteur Institute of St. Louis

Antirabic Virus (Semple)

G. D. Searle & Co.

Bismuth Sodium Tartrate—Searle

Ampoules Bismuth Sodium Tartrate—Searle, 2 cc.

Swan-Myers Co.

Biennial Sage Concentrated Pollen Extract—Swan-Myers

Pollen Extracts—Swan-Myers 2000 unit packages

Viking Palatable Cod Liver Oil, formerly distributed by Sigurd E. Roll, Chicago, is now distributed by Viking Health Products Co., Chicago. The Council has continued the acceptance of Viking Palatable Cod Liver Oil under the new distributor.

OBITUARY

JEFFERSON DAVIS BRUMMALL, M.D.

Dr. Jefferson D. Brummall, Salisbury, a graduate of Missouri Medical College (now Washington University School of Medicine), St. Louis, 1882, died at his home May 4, 1928, aged 67. His health had been failing for the last four years and last February he suffered a stroke of paralysis.

Dr. Brummall practiced in Salisbury for 42 years and was one of the best known men in his section of the state. He had been very active in his county medical society and the State Association and in the civic and business affairs of his community for nearly half a century. He was born on a farm four miles southeast of Salisbury on April 5, 1861, and attended the district school, the Salisbury school and later a private school conducted by Professor Oren Root, a brother of Elihu Root. After receiving his medical degree in 1882 he returned to practice at Salisbury, leaving only for various postgraduate courses in the Eastern schools. He was first vice president of the State Association in 1918-1919 and secretary-treasurer of the Chariton County Medical Society for many years. In 1925 his county medical society elected him an Honor Member. He was a draft board examiner and a local officer of the Red Cross during the World War. His efforts led to the establishment of the Royal Arch Chapter of the Masonic Lodge in Salisbury fifteen years ago. While his practice was extensive and sufficient to require all the attention of a man of ordinary energy, Dr. Brummall was a leader in many civic affairs and the head of several business enterprises. He founded and for years remained an active manager of the J. D. Brummall Drug Company. He never lost his boyhood affection for farm life and took delight in the management of the several farms he owned. He was an elder in the Presbyterian Church and later a member of the Board of Stewards in the Methodist Church. He served on the school board and as an officer of the Salisbury Chautauqua Association for twenty years.

Dr. Brummall's first wife, who was Miss Annie Thomas, died in 1889, three years after their marriage. He is survived by his widow and a son, Dr. H. H. Brummall. Another son, Clarence E., who was prosecuting attorney, died in 1924. Dr. Brummall's long and distinguished career as a

Christian man and a servant of his community made him friends throughout the state. His passing will be noted with a sense of personal loss by many far from the borders of Chariton County.

QUINTON MOORE BROWN, M.D.

Dr. Quinton M. Brown, Nevada, a graduate of the University of Louisville School of Medicine, Louisville, 1911, died April 28, 1928, of transverse myelitis following influenza, aged 41.

Dr. Brown received his early education in the Laddonia High School. In 1927 he was elected vice president of the Vernon-Cedar County Medical Society, and in 1928 alternate delegate to the State Medical Meeting. He was a Fellow of the American Medical Association.

DAVID ELLSWORTH FURNALL, M.D.

Dr. David E. Furnall, St. Louis, a graduate of Beaumont Hospital Medical College (now St. Louis University Medical School), 1900, died at St. John's Hospital, Saturday, June 2, 1928, of a complication of diseases, aged 57.

Dr. Furnall, former member of the faculty of Washington University Medical School for many years, was born in Ohio, January 15, 1871, and came to St. Louis thirty-five years ago. Dr. Furnall was a member of the St. Louis Medical Society and the Masonic Order. He is survived by one son and three sisters.

MISCELLANY

THE SERVICE OF THE LABORATORIES OF THE STATE BOARD OF HEALTH OF MISSOURI

R. L. LAYBOURN, M.S.

Chief of Laboratories
State Board of Health of Missouri

JEFFERSON CITY, MO.

Part I

GENERAL INFORMATION

The public health laboratory is an essential part of the machinery necessary for the control of communicable diseases. When such service is not provided by the state the welfare of the communities suffers since only by the extensive use of the laboratory can the health officer or the physician give his community the protection against communicable diseases which the people have a right to demand. For example, a person who has recovered from diphtheria may remain a carrier for a considerable length of time and be a menace to the community

if at large. It is unreasonable to ask him to pay one or two dollars each for a number of throat culture examinations which are solely for the protection of the community and it will not usually be done. The state board of health laboratories were, therefore, established early in 1924 for the assistance of the physicians of the state in the control of communicable diseases. The increase in the volume of examinations handled has been rapid and has amply demonstrated the need of such a service.

The laws establishing the duties of the state board of health provide that "nothing in this article shall apply to cities which now have, or may hereafter have, a population of 75,000 or over who are maintaining organized health departments." These larger cities have their own public health laboratories and the state board of health laboratories are not called upon to examine specimens from the metropolitan areas. The purpose of the organization is to render public health laboratory service in communities where such service is not available locally and to encourage and assist in the establishment and development of local public health laboratories wherever possible.

To obtain the best results there must be a mutual understanding between the physician and the laboratory relative to the characteristics of the various examinations and problems involved. What examinations are made? Where can specimen containers be obtained? How should the specimen be collected and shipped? What do the results of the examination indicate? These and similar questions are asked daily. Also, many specimens which are sent to the laboratory have been improperly collected or have been shipped under such unfavorable conditions that a satisfactory examination is impossible. Still others are received in containers which violate the postal laws and regulations governing the packing and shipment of specimens. This series of articles will point out some of the things which will enable the physician to derive the most benefit from the service which the laboratory is prepared to render.

Scope of the Work. The work is limited strictly to the bacteriological and serological examination directly related to the prevention, detection and control of cases, contacts or carriers of communicable diseases. The only tissue examinations authorized are brains for rabies. The examination of tissues for malignancy, routine urine analyses, chemical blood analyses, are not authorized and cannot be handled. Such examinations undoubtedly have an indirect relation to the public health but their acceptance would be an encroachment on the field of the clinical laboratory.

Collection of Specimens. Great care should be exercised in the collection of specimens. The laboratory worker can tell what is in a given specimen but he has no way of knowing that this specimen is representative of the conditions about which information is desired. That is up to the physician. When it is necessary to reject a specimen, as sometimes happens, it is nearly always due to carelessness in the collection or packing or to a disregard of the fundamental principles of bacteriology or serology. A Wassermann specimen was recently received in a "Listerine" bottle. When opened, the odor of the former contents of the bottle was easily discernible. Had this specimen been run and the results found to be at variance with the clinical findings the sender would undoubtedly have been certain that the trouble was due to inefficiency on the part of the laboratory.

Many specimens are received which are an actual menace to the health of the person opening them. The worst case of this sort encountered was a wad

of pus-soaked cotton with a letter in the middle of it. When pulled apart and the message deciphered it was found to be a request for a glanders examination.

Postal Laws and Regulations Governing the Shipment of Specimens. The regulations governing the packing of specimens for bacteriological examination are quite specific. Cultures or sputum specimens collected in glass containers must be placed in a metal tube with a screw top; this in turn must be placed in a fiber-board mailing tube with metal top and bottom and must bear a legend which informs the mail handlers of the contents. Wassermann specimens, dried blood for Widal, smears for gonorrhea, require only a single protective covering. The containers furnished by the state board of health comply with these regulations and should always be used.

Material Excluded From the Mails. Certain types of material are not mailable under any circumstances. Among these are specimens containing or suspected of containing the organisms of asiatic cholera, plague, liquid or broth cultures of any sort, and alcohol or material preserved in alcohol or any other material capable of damaging the mail or endangering the health of postal employees.

Postal Rates on Specimens. Specimens shipped in the regular state board of health specimen containers are mailable at third or fourth class rates, depending on weight. Occasionally a postmaster will insist on charging first class or letter rates because of the writing on the identification card. According to the postal regulations, the writing in the blank spaces is for the purpose of identification and does not change the rates chargeable thereon. One exception should be remembered. All the identification blanks bear the following legend, "If you wish telegraphic report at your expense, check here and mail specimen at letter rates." A check mark in the square indicated is regarded as a communication and subjects the specimen to letter rates.

Identification of Specimens. All specimens should be accompanied by the physician's name and address, the patient's name or initials and the type of examination desired. We are at present holding the report on a sputum specimen, which showed the presence of the tubercle bacillus, because the doctor failed to fill out the identification card and we do not know to whom to send the report.

How to Obtain Specimen Outfits. Arrangements have been made with a drug store in each city in the state where they are five or more doctors, to keep a supply of the various types of specimen outfits on hand so that they can be readily obtained by any physician of the community. In the smaller communities they are sent directly to the physician upon request.

The following types of specimen containers are distributed: Diphtheria, gonorrhea, malaria, tuberculosis, typhoid blood culture, typhoid feces, typhoid Widal and Wassermann.

The Laboratory Does Not Make Diagnoses. It should be emphasized that the physician makes the diagnosis, not the laboratory. The laboratory report is only part of the information on which a diagnosis is based. A proper diagnosis consists of the history, clinical picture, laboratory report and any other information which may have any bearing on the case. The physician who depends wholly on the laboratory report for his diagnosis errs as greatly as the one who makes no use of the laboratory. If he will use the laboratory as a precision instrument, just as he would use his stethoscope, he will find it gives him valuable assistance.

The Prevention of Infantile Blindness. In cooperation with the division of child hygiene of the

state board of health and the federal Children's Bureau, the laboratories are manufacturing and distributing, without charge, wax ampules of 1 per cent. silver nitrate solution for use in the eyes of the new-born, as required by the laws of Missouri and the regulations of the state board of health. A supply of these ampules will be sent to any physician residing outside of the metropolitan areas upon request.

The role of the gonococcus in eye infections of the new-born has been greatly overstressed. A review of the findings of numerous investigators indicates that about six out of every ten cases of ophthalmia neonatorum are due to the gonococcus. Next to the gonococcus, the pneumococcus appears to be the worst offender with the *Bacillus coli*, the staphylococci and others responsible for a certain number of cases. The consensus of medical opinion seems to be that the use of silver nitrate solution in the eyes of the new-born, as soon after birth as possible, not only protects against gonococcus infections, but also protects against other types of infections as well.

Considerable antagonism to the use of the prophylactic solution has been encountered in the past from parents who considered its use a reflection upon them. Some physicians have failed to use the solution in cases where they were convinced that there was no gonorrheal infection in the family. The findings mentioned above justify the physician in the use of the solution in the eyes of every new-born baby. Expectant mothers should be advised that the use of the prophylactic solution is a reasonable insurance against every sort of birth infection of the eyes and that gonococcus infections represent about 60 per cent. of those which are likely to develop if the prophylactic solution is not used.

Old silver nitrate solution will cause some irritation. The packages supplied by the state board of health bear a date beyond which it should not be used.

Successive articles of this series will discuss important consideration in connection with the more common types of public health laboratory examinations.

BRUCELLA ABORTUS INFECTION IN MAN

The seven cases here reported by R. L. Sensenich and Alfred S. Giordano, South Bend, Ind., (*Journal A. M. A.*, June 2, 1928), may be readily classified in three groups, comparable to the classification ordinarily followed in undulant fever due to *Brucella melitensis*, as follows: (1) undulant; (2) intermittent, and (3) ambulatory. The characteristic symptoms of *Brucella abortus* infection in man are anorexia; loss of weight and strength; headache and chills and fever and sweats of varying intensity throughout long periods of time, frequently with intermissions. The fever has a tendency to exhibit undulations which may vary in character and in length. Evidence of the effect of the disease on the nervous system in constant and arthritis is a common symptom. The consideration of *Brucella abortus* infection in the different diagnosis of all conditions exhibiting variable combinations of these symptoms will undoubtedly reveal more frequent occurrence of this disease. Isolation of the organism from the blood or a positive agglutination reaction makes the diagnosis definite, although the disease may be present with negative manifestations.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES
WHICH HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

Platte County Medical Society, March 10, 1928.

Miller County Medical Society, March 16, 1928.

Camden County Medical Society, March 23, 1928.

Ste. Genevieve County Medical Society, March 26, 1928.

Atchison County Medical Society, March 30, 1928.

Caldwell County Medical Society, April 14, 1928.

Scotland County Medical Society, May 1, 1928.

Schuyler County Medical Society, May 8, 1928.

Wright-Douglas County Medical Society, May 10, 1928.

Boone County Medical Society, May 23, 1928.

MISSOURI STATE MEDICAL ASSOCIATION

Seventy-First Annual Session, Columbia
May 14, 15, 16, 17, 18, 1928

MINUTES OF THE HOUSE OF DELEGATES

Missouri Methodist Church, Monday, May 14,
1928—Morning Session

The first meeting of the House of Delegates of the Missouri State Medical Association, held in the Missouri Methodist Church, Columbia, Monday, May 14, 1928, convened at 9:45 a. m., the President, Dr. Frank G. Nifong, Columbia, presiding.

At roll call ninety-five delegates responded as follows:

Officers

President.....Frank G. Nifong, Columbia
President-Elect...Frank I. Ridge, Kansas City
Secretary-Editor...E. J. Goodwin, St. Louis
Treasurer.....G. W. Hawkins, Salisbury

Councilors

1st District.....O. C. Gebhart, Oregon
2nd District.....H. S. Conrad, St. Joseph
3rd District.....J. A. Crockett, Stanberry
5th District.....J. R. Bridges, Kahoka

Councilors

6th District.....	J. S. Gashwiler, Novinger
8th District.....	B. K. Stumberg, St. Charles
9th District.....	A. R. McComas, Sturgeon
10th District.....	Don A. Barnhart, Huntsville
11th District.....	J. H. Timberman, Chillicothe
12th District.....	Spence Redman, Platte City
13th District.....	G. E. Bellows, Kansas City
14th District.....	C. T. Ryland, Lexington
15th District.....	L. J. Schofield, Warrensburg
16th District.....	T. B. M. Craig, Nevada
17th District.....	Guy Tittsworth, Sedalia
18th District.....	W. L. Allee, Eldon
19th District.....	M. R. Aldridge, Jefferson City
20th District.....	W. C. Gayler, St. Louis
26th District.....	W. H. Breuer, St. James
27th District.....	J. C. B. Davis, Willow Springs
28th District.....	W. M. West, Monett
29th District.....	R. M. James, Joplin

Delegates

COUNTY	DELEGATE
Adair.....	E. C. Grim, Kirksville
Boone.....	R. S. Battersby, Columbia
Buchanan.....	C. A. Good, St. Joseph
Caldwell.....	O. C. Kilbourn, Cowgill
Callaway.....	M. Yates, Fulton
Cape Girardeau...	Paul R. Williams, Cape Girardeau
Carroll.....	O. R. Edmonds, Tina
Cass.....	W. L. Veirs, Pleasant Hill
Chariton.....	W. D. West, Mendon
Christian.....	H. J. Wise, Sparta
Clay.....	S. R. McCracken, Excelsior Spgs.
Cole.....	W. A. Clark, Jefferson City
Cooper.....	J. F. Potts, Boonville
Daviess.....	L. R. Doolin, Gallatin
Dekalb.....	G. D. Johnson, Maysville
Greene.....	J. W. Love, Springfield
Harrison.....	A. L. Wessling, Bethany
Henry.....	R. D. Haire, Clinton
Howard.....	W. R. Hawkins, Glasgow
Howell-Oregon...	P. D. Gum, West Plains
Jackson.....	Hermion S. Major, Kansas City
Jackson.....	B. L. Elliott, Kansas City
Jackson.....	Elmer P. Monahan, Kansas City
Jackson.....	D. D. Stofer, Kansas City
Jackson.....	Fred B. Kyger, Kansas City
Jackson.....	Ira H. Lockwood, Kansas City
Jackson.....	H. Lewis Hess, Kansas City
Jackson.....	E. John E. Evans, Kansas City
Jackson.....	Frank M. Postlethwaite, Kan. City
Jasper.....	L. C. Chenoweth, Joplin
Laclede.....	C. E. Carlton, Stoutland
Lafayette.....	Lewis Carthrae, Jr., Corder
Lawrence-Stone...	R. D. Cowan, Aurora
Macon.....	W. A. Welch, Callao
Marion.....	J. J. Bourn, Hannibal
Miller.....	G. D. Walker, Eldon
Mississippi.....	A. H. Marshall, Charleston
Nodaway.....	Chas. D. Humbert, Barnard
Pettis.....	A. J. Campbell, Sedalia
Phelps.....	S. L. Baysinger, Rolla
Pike.....	M. O. Biggs, Louisiana
Platte.....	R. P. C. Wilson, Platte City
Randolph.....	L. E. Huber, Moberly
Ray.....	R. L. Hamilton, Richmond
St. Charles.....	A. P. Erich Schulz, St. Charles
St. Francois.....	W. W. Johnston, Jr., Farmington
St. Louis.....	R. B. Denny, Creve Coeur
St. Louis.....	C. P. Dyer, St. Louis
St. Louis City....	F. J. V. Krebs, St. Louis
St. Louis City....	P. F. Titterington, St. Louis
St. Louis City....	R. E. Schlueter, St. Louis
St. Louis City....	Joseph Grindon, St. Louis
St. Louis City....	William E. Leighton, St. Louis

St. Louis City.... Malvern B. Clopton, St. Louis
St. Louis City.... Ralph L. Thompson, St. Louis
St. Louis City.... Cleveland H. Shutt, St. Louis
St. Louis City.... W. G. Patton, St. Louis
St. Louis City.... V. V. Wood, St. Louis
St. Louis City.... Charles E. Hyndman, St. Louis
St. Louis City.... F. C. Simon, St. Louis
St. Louis City.... Charles H. Neilson, St. Louis
Saline..... F. A. Howard, Slater
Scotland..... E. E. Parrish, Memphis
Shelby..... Lawrence L. Smith, Bethel
Texas..... L. M. Edens, Cabool
Vernon-Cedar.... J. R. Colson, Schell City
Wright-Douglas.. R. M. Norman, Ava

On motion of Dr. W. H. Breuer, St. James, duly seconded, the reading of the minutes of the 70th annual session was dispensed with and they were adopted as published in THE JOURNAL.

PRESIDENT NIFONG: The next order is the President's message and recommendations. This year has been so harmonious and happy that there isn't much of anything to complain about and not much to recommend to you.

President's Message and Recommendations*To the Members of the House of Delegates:*

I believe it is customary for your President to deliver to you some message at the opening of this house. A humble member from the ranks of the profession, elevated to the high position of President of this Association, must of necessity enter the office with some fear and misgivings as to his fitness for such a place. One of our old friends and a member of this Association, now gone, had a wise way of illustrating a great truth. He would say to a young doctor: "Now, do not feel 'chesty' or egotistical if the first citizen of your town retains you as his physician, nor feel dejected if he discontinues your service. The only real compliment to a doctor is when one good doctor calls another in consultation."

When the whole body of good doctors of our state selects one for counselor and guide in our organization I deem that the highest possible compliment; and I wish now to voice again my deep appreciation of your confidence in me and I trust that your verdict will be that it has not been misplaced. As I have said, sensing the dignity and responsibility of the presidency of this Association, I had some fear and misgivings as to my capacity to fill the position. It would not have been possible for me to do so acceptably without the excellent support given me at all times by the strong men of our committees and an excellent functioning Council and Executive Committee. At your last session you wisely changed our constitution and we have begun the system of having a President-Elect. This is a most important change, giving a vice president and a president in training in one, and familiarizing and preparing him for the important duties of the succeeding year. This change has made for a thoroughly informed and fully functioning president the moment he is installed. I can say to you that the one you have chosen will carry on with distinction and greater efficiency than the president now retiring. We are fortunate in our beginning.

A truism so trite in an attempt to illustrate the value of organization need not be given you men, who have been selected as outstanding and representative of your local organized profession. However, one must participate in these organized efforts to attain our ideals of service to our people if we would have a proper estimate of the value of organization. On account of many problems confronting the medical profession, due to the changes in modern medical service, organized efforts have become more and more important. It is my hope that through your efforts in this house and through your efforts in your local communities, the importance of organization will be accentuated and exemplified. Our medical organization is about ideally built in articulating county, state and national bodies and should have the motto of Dumas' "Musketeers,"—"All for one and one for all."

How may or how does our Association function? It might be alliterated into a trio of social, science and service. Perhaps not the least important is the social aspect of our meeting. Close contact is indispensable in giving us understanding and in making us tolerant of our fellows, even while it contributes much to our pleasure, for we are inherently social beings. No one properly constituted can attend one of our meetings and see his old friends and make new ones, without being greatly benefited. Scientific progress, one often thinks, is the prime reason for attendance. We may read scientific papers day and night and not get

the benefits that we derive when we hear a paper discussed; again, we may hear a paper read and pretty well judge if we care to read the writer's later productions. One of the chief reasons for the existence of the organized medical profession is to help us as a body and as individuals render ideal medical service to our people. On account of the many difficulties encountered in the progress of rendering the best service to humanity, organization is absolutely necessary to make this at all possible. It becomes the duty therefore of our regular medical men to support the efforts of our county societies and our State Association.

Our State Association, in efforts to promote the general welfare of the people as well as the profession of medicine, has been practically committed to certain policies. In legislation, I am pleased to say, we have become more tolerant and democratic. We ask no special privileges, no repressive legislation; we ask only laws to promote the general welfare and protect the health of the people. We would ask only that truth might prevail; that any individual, cult, or what not should possess certain fundamental knowledge of the human body if he essays to treat that human body in any way. To some of us this may have appeared unwise as a policy, but in the long run, I am sure, it is much the best if we continue in singleness of purpose. Always, it seems, any prohibitive policy or prosecution has been capitalized and the culprit made a martyr.

Our policy as to medical education has been defined more than once. The obligation of the State of Missouri to teach medicine cannot be questioned. If she assumes to furnish any other technical education, then the obligation to teach medicine is only the more binding. We care not where she may do this; but we do demand that she do it as fulfilling one of her more important obligations. This service is only partly given by our state at present and we should demand that measures be taken to complete medical education for our poor sons and daughters, who would soon return tenfold in service to the state. We have sponsored a bill in one legislature for a general hospital which would have fulfilled the dual purpose of caring for the sick and poor in rural communities and making it possible for the Missouri University Medical Department to give complete medical education. It is to be hoped that this project will be put forward again with more support and better success.

Rural medical service is one of our problems at present. The idea of a less educated class of practitioners is not in accord with our sense of justice and right. The individual who produces our food is quite as important to the body politic as the fellow who helps fabricate our automobile. The question of service to such people will no doubt be solved. Good roads is a prime factor and I feel sure that our Association and every progressive doctor in it is an advocate of good roads. With good roads and adequate community and county hospitals the question is solved. No adjunct to modern scientific medicine is more important than hospitals. It should be our concern that such institutions be procured for rural service. I wish I might have time to elaborate on their many and peculiar benefits to a community.

Many new problems are constantly presenting themselves in the administering of modern scientific medicine. The workmen's compensation and social and economic problems, the activities of lay societies, are some. Many times medical men are exploited in unworthy ways. It is the business of organized medicine to prevent these things as much as possible and help the individual doctor give dignified and appreciated service. I am pleased that our new by-laws have approved another committee, that of Medical Economics, and we have such a committee composed of level-headed men to work for us.

A matter which should concern us very greatly, both as individuals and as an organization, is the maintenance of our old ideas and our ethical standards. A few days ago I received a most pitiful letter from a country doctor of the old-school type whom I greatly admire and revere. He felt disgraced that his noble profession was being prostituted. He knew positively of hospitals and individual doctors who were treating patients as mere chattels—, being bought and overbid for.

It is no use to shut our eyes to this most vicious practice or to seek by some sophistic argument to excuse it. It is enough that it is abhorrent to this type of old-school doctor to condemn it. A vice so akin to others still more virulent that they may follow. An abortion produced under the euphemistic name of "birth control" does not make it less murder to Catholic minded individuals. Right thinking, clean living doctors of the old-school type do not look on this practice complacently. When we depart from our old standards of conduct and our inherited high ideals, the medical profession is treading on most dangerous ground. I would be most proud if our Association would openly condemn all such vicious practices, even if we could not find some practical way to stop it. Certainly we might hold to our ideals and advocate our tried and true principles of ethics which we have inherited from ancient medicine.

On motion, duly seconded and carried, the President's message was referred to the Council.

PRESIDENT NIFONG: Our next order of business is the appointment of reference committees. I will appoint the following:

Reference Committee on Constitution and By-Laws

Dr. C. H. Neilson, St. Louis, Chairman.
Dr. A. J. Campbell, Sedalia.
Dr. W. A. Braecklein, Lexington.

Reference Committee on Miscellaneous Affairs

Dr. H. Lewis Hess, Kansas City, Chairman.
Dr. R. L. Hamilton, Richmond
Dr. R. W. Berrey, Mexico.

Reference Committee on Resolutions

Dr. P. D. Gum, West Plains, Chairman.
Dr. R. S. Battersby, Columbia.
Dr. H. J. Wise, Sparta.

REPORT OF THE COMMITTEE ON ARRANGEMENTS

Dr. W. L. Allee, Eldon, read the report of the Committee on Arrangements in the absence of the Chairman, Dr. A. R. McComas, Surgeon, as follows:

The Committee on Arrangements was appointed by the Council at the meeting held in Kansas City in December, 1927. This is a new committee created by the present Constitution and By-Laws. This committee appointed Dr. Dudley A. Robnett, Columbia, general chairman of the local committee on arrangements, whose duty required him to appoint all subcommittees for the Annual Session.

Dr. Robnett has been indefatigable in devising plans for the success of the meeting. His wisdom in selecting the subcommittees is shown in the splendid cooperation which they have rendered. He has worked incessantly and given personal attention to every detail. This has involved an endless amount of effort but he has succeeded, we think, in arranging all the details in a very satisfactory manner. We commend him and his subcommittees most highly. He will now report to you in person and make such announcements from time to time as may be necessary.

A. R. McCOMAS, Chairman,
W. M. WEST,
W. L. ALLEE.

Dr. T. B. M. Craig, Nevada, moved the adoption of the report. The motion was regularly seconded and carried.

Dr. Dudley A. Robnett, Columbia, chairman of the local committee on arrangements, reported as follows:

REPORT OF THE LOCAL COMMITTEE ON ARRANGEMENTS

We are a little embarrassed for the place of meeting and for the hotels, but we have done our best to take care of you. We selected the auditorium of this church because we could get all our meetings under one roof. I believe you will find it satisfactory if we have the cooperation of the members and keep as quiet as we can during the sessions.

Our hotels are filled to capacity but through the cooperation of the Chamber of Commerce we are endeavoring, through our room bureau which we have established at the Tavern, to take care of all who come in at a later date. If there is any difficulty I hope you will notify me or the bureau because we want to take care of you. All the general meetings and exhibits are to be held here in the church.

Tuesday noon is the luncheon for the County Medical Society Secretaries, which Dr. Goodwin has charge of, and which will be held in the private dining room directly behind the platform.

Tuesday evening there will be an alumni dinner for the former students of the Missouri University which will be held at the Daniel Boone Tavern.

Wednesday noon we have the fraternity luncheons of the Phi Beta Pi at the Columbia Country Club, and the Alpha Kappa Kappa luncheon at Harris' Cafe.

Wednesday evening the President's Address at the Uni-

versity Auditorium will be preceded by a joint concert given by the Women's Glee Club and the Men's Glee Club, arranged and sponsored by the members of the Boone County Medical Society. This should be a very enjoyable program because both the glee clubs have won recognition throughout the Missouri Valley and the Men's Glee Club in the East.

Thursday evening we will have the public health meeting at the University Auditorium which should be of interest to all of us. Dr. Ravenel, of the University of Missouri, will preside. There will be talks by Dr. Bloodgood, Dr. Cullen, Dr. Joslin and Dr. Pottenger, our distinguished guests from out of the state.

Friday will be given over to the postgraduate clinics, something we haven't done before. The clinics will be held at the University Hospital by Dr. Bloodgood, Dr. Cullen, Dr. Neff and Dr. Joslin, taking up their various specialties in surgery, pediatrics and diabetes.

The Columbia Country Club has extended the privileges of the club to all our visiting guests. Those who desire to play golf I will ask to register with the Secretary at the information desk and receive a card. There are no greens fees and we will be delighted to have you take charge of the club this week and use it as you see fit. For those who haven't cars, taxicabs are available with very reasonable rates. If you want to ride in the bus it is ten cents, and two can ride in a taxicab for a quarter.

Tuesday, Wednesday and Thursday the women of the church have arranged to serve luncheons in the south chapel. I believe we will enjoy these luncheons because they are going to have a splendid menu. They will be right here where you can have your own tables and your own groups, and I hope you will avail yourselves of the opportunity.

For those who have their wives with them, the Women's Auxiliary is meeting at the Missouri State Teachers' Building on South Sixth street. Their arrangements have been made independent of ours, but their general meetings will be there. Their luncheon will be here at the church on Wednesday.

Secretary Goodwin moved the adoption of the report. Seconded and carried.

PRESIDENT NIFONG: Supplementary to this report, I hope the delegates and the members of this Association will feel free to ask for anything they want. We have a hospitality reputation in Columbia that we doctors would not like to mar. This has been a hospitable community since time immemorial, since the old days when it was peopled with Virginians and Kentuckians. We are still trying to hold to those lines and I think we would still be voted as somewhat hospitable.

It is our very great pleasure to welcome you here. Unfortunately we cannot welcome you as well as we might have done next year because we hope to have a bigger hotel where all might be in the hotel. The doctors are used, or like to make out they are used, to the best in the land and they want the best in hotel service but of course we haven't enough hotel room. There are lots of clean homes in Columbia and we will find the room.

The Credentials Committee of the American College of Surgeons is to meet here tomorrow at eleven o'clock. We have arranged for the meeting in one of the committee rooms. They will have their lunch there also.

The Secretary, Dr. E. J. Goodwin, St. Louis, read his report as follows:

Report of the Secretary

The number of members is slightly below (29) the total number reported in 1927 due to the large number dropped for nonpayment of dues. The activities of the county societies, however, I believe have been more pronounced since the last Annual Session than in the previous twelve months. One reason for this is due to the influence of the Postgraduate Committee who have sent speakers to county medical societies and district meetings.

There being no session of the legislature this year we have had no legislative matters to watch in our own State but there have been quite a number of bills in Congress that threw considerable work upon our Legislative Committee and the Secretary's office. The principal bills were:

(1) Asking Congress to permit physicians to deduct from their income tax the expenses incurred when attending medical conferences.

(2) To prevent the increase of the Harrison Narcotic Tax from \$1.00 to \$3.00.

On May 2 the Senate Committee refused to recommend the deduction of traveling expenses but did recommend that the Harrison Narcotic Tax, which was reduced from \$3.00 to \$1.00 in 1926, be again increased from \$1.00 to \$3.00. I notified the chairman of the Committee on Public Policy, Dr. Pearce, of this effort to add to our burdens, and sent the information to sixty-five other officers and members of the Association and county societies. I received assurances from Senator Hawes and Mr. Cochran and several other representatives that they would oppose the increase of this tax. The question is still pending in the Senate.

Acting on the instructions of the Committee on Public Policy efforts were made to amend the radio law to prohibit the broadcasting of information that might be false, misleading or deceptive. In this we failed the Radio Commission declaring that the law establishes authority for revoking the license of a person guilty of such an offense.

There is a growing tendency toward hyphenation of two or more societies in the less populated districts. We have quite a number of societies with a membership of three to ten members. It is very evident that such a small number of members find it difficult to maintain a live and active society but would be effective if several such societies were hyphenated. This hyphenation would bring up the question of representation in the House of Delegates—whether there shall be one delegate for each of the societies in the combined body.

An amendment to the By-Laws will be presented to you by the Committee on Amendments to the Constitution and By-Laws asking for the extension of the two year period after graduation to four years. This amendment is submitted by the delegates from the St. Louis Medical Society and has the approval of the Executive Committee.

Messrs. Kessler, Cartall & Company, certified public accountants, have audited the books of the Association, both in the treasurer's office and the secretary's office. Their report is published in the May issue of THE JOURNAL.

Under our present Constitution and By-Laws the terms of one-half of the councilors expire this year, the terms of councilors of the odd numbered districts expiring.

To our county society secretaries the organization owes a debt for faithful discharge of their duties and mindful of their interest, the Association provides, at each session, a dinner or luncheon for these faithful workers. This year it is to be a luncheon which will be given in the dining room of this church. The officers and the councilors are earnestly invited to attend this luncheon and take part in the proceedings.

Our guests invited by the Committee on Scientific Work on the authority of the Council are, Drs. J. C. Bloodgood and Thomas S. Cullen, of Baltimore; Elliott P. Joslin, Boston; F. M. Pottenger, Monrovia, California; Frank Smithies, Chicago.

Status of Membership

Number of Members, May 1, 1927.....	3305
New members	171
Reinstated	39
Total	3515
Resigned	15
Transferred	34
Dropped	143
Deceased	44
Suspended	236
Total, May 1, 1928	3279
Respectfully submitted, E. J. GOODWIN, Secretary.	

Dr. H. S. Major, Kansas City, moved that the report of the Secretary be accepted and referred to the Council. Seconded and carried.

The Treasurer, Dr. G. W. Hawkins, Salisbury, read his report as follows:

REPORT OF THE TREASURER

To the House of Delegates:

I wish to submit the following report of the financial condition of the treasury of the Missouri State Medical Association at the close of business May 12, 1928.

General Fund

Receipts

Balance April 30, 1927.....	\$16,022.57
County dues	24,716.50
Advertising	8,321.08
Exhibit Space	487.50
Interest 5-1-27 to 12-31-27	166.06
Total	\$49,713.71

Disbursements

Vouchers paid	30,938.19
Balance May 12, 1928.....	\$18,775.52

Legislative Fund*Receipts*

Balance April 30, 1927.....	\$ 3,354.33
Transferred from General Fund	3,363.00
Interest 5-1-27 to 12-31-27	36.74
Total	\$ 6,754.07

Disbursements

Vouchers paid	1,970.65
Balance May 12, 1928.....	\$ 4,783.42

Defense Fund*Receipts*

Balance April 30, 1927.....	\$ 643.89
Transferred from General Fund	1,000.00
Interest 5-1-27 to 12-31-27	25.38
Total	\$ 1,669.27

Disbursements

Vouchers paid	400.00
Balance May 12, 1928	\$ 1,269.27

Sinking Fund*Receipts*

Balance April 30, 1927.....	\$ 676.02
Interest 5-1-27 to 12-31-27	12.00
Balance May 12, 1928	\$ 688.02

Recapitulation

General Fund	\$18,775.52
Legislative Fund	4,783.42
Defense Fund	1,269.27
Sinking Fund	688.02
Total	\$25,516.23

G. W. HAWKINS, Treasurer.

Dr. W. H. Breuer, St. James, moved that the report be received and referred to the Council. Seconded by Dr. L. E. Huber, Moberly, and carried.

Dr. E. J. Goodwin, St. Louis, read the report of the Committee on Scientific Work, as follows:

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK, 1927-1928

Your Committee on Scientific Work began the preparation of the program early in the fall of 1927 and had practically completed the entire program early in January of this year. We endeavored to obtain papers dealing with subjects of wide interest to a large number of the members and in doing this we prepared symposiums on four subjects of very general application, namely, backache, headache, arthritis and skin diseases.

With the permission of the Council we have invited five guests eminent in the profession who will tell us about the work they have done that has made them eminent in their special fields.

Again the Committee desires to plead with our members in the rural districts to offer themselves for a place on the program at each Annual Meeting. The Committee feels that the members in the small towns are derelict in failing to give their full cooperation by not presenting their medical problems to the scientific program.

The program is well crowded but all the papers can be read if speakers will stay within the time limit.

E. J. GOODWIN, Chairman
J. E. STOWERS
R. F. HYLAND

Dr. G. W. Hawkins, Salisbury, moved that the report be adopted. Seconded by Dr. Guy Titsworth, Sedalia, and carried.

PRESIDENT NIFONG: Just here I might say something myself. You see a slight departure in our inviting guests here. We have invited guests of some renown; and there wasn't quite enough said about the postgraduate work. It may come in some other place. That is quite an important thing for the

country members and I know from my own observation that it is an appreciated service. In pursuance of that idea we have supplemented this program with the distinguished guests holding a clinic the day following our regular session for the benefit of any who might wish to stay, and we hope there will be a great number because I know positively these clinics are going to be quite as beneficial and educational, perhaps more so, than our symposiums. It will be well worth your while, especially for the country members who have appreciated these contributions in postgraduate work in their localities.

This is supplemental and experimental and we want to see whether it works or not and whether we can get more out of our State Association in this function of the educational part of it.

Dr. H. E. Pearse, Kansas City, Chairman, read the report of the Committee on Public Policy. (See page 349.)

Dr. W. A. Clark, Jefferson City, moved that the report be received and referred to the Council. Seconded by Dr. G. V. Stryker, St. Louis, and carried.

PRESIDENT NIFONG: Gentlemen, you have heard this report of the Committee on Public Policy which is one of our most important committees, if not the most important of all. There are a number of things mentioned in that report which concern us greatly.

I see a member and former president of this Association who can help us with his wisdom on some of these questions. At least I am sure we would be pleased to hear from him. I know his practice failed to such an extent that he couldn't live on it any longer and he sought election to the legislature so he could get enough to exist. He was elected and I think he is going to be elected again. With all that, he has been a wheel horse in our councils and a great director in our legislative work. He has a lot of things on his mind and he needs help. He said to me, "Why don't we have more medical men in the legislature?" There are not many who are as poor as he and they don't have to have that five dollars a day. That is the economic reason, of course. A man can't afford to go into the legislature unless he is altruistically inclined. We do need more men in this legislative work to protect ourselves as well as to protect the people of the state. That is one of our chief functions, one of the true functions of our Association. I want to call on Dr. Chas. H. Wallace, St. Joseph, President of this Association in 1906-1907, to talk a little on this report.

Address of Dr. C. H. Wallace

DR. C. H. WALLACE, St. Joseph: Mr. President and Gentlemen: I want to thank you for the consideration of wanting to hear from one who has been in this Association for a great many years and who has had the privilege of being in the legislature doing what he could and what he thought was along proper lines that would meet the approval of the medical profession. As to whether I have made any mistakes, that is for you gentlemen to determine. If I have made any mistakes in any of my efforts they have been from the head and not from the heart.

I think being a member of the Missouri legislature unfolds a condition of affairs that we can't appreciate unless we have been there. It is one thing on which this body ought to be enlightened to some extent if we expect to progress and not retrograde. That reminds me of a story I heard that impressed me somewhat. A negro preacher was preaching to his audience and he said: "Brethren, Zion is going to rise and walk; Zion is going to rise and walk."

An old fellow down in the audience said, "Let him walk."

The preacher said, "Zion is going to rise and run."

The same fellow said, "Let him run."

"Zion is going to rise and fly, but it will take money to make him fly."

"Let him walk." (Laughter.)

We are in that position unless we can get a little more

enthusiasm from the profession as to what we are going to get and what we may expect in the legislature. We ought to have a larger and more interested representation in the legislature.

You can readily appreciate that in that body of men there are those interested in matters that touch them and their constituents vitally. Medical questions do not appeal to them, and as a rule they do not listen to them very much because they are crowded out by other things. For that reason it is my impression and my belief that this body ought to take some concerted action by a committee to try to interest more doctors to go to the legislature. I will say to you that unless you have somebody who is a doctor or has the doctor's blood in his veins and is following the precepts of a father ahead of him, he hasn't much interest in medical and health matters and it is hard to get him interested.

If we want to get what our committees work at and the laws that we feel we need and discuss here, we have to have somebody in the legislature who is there almost entirely for that sole purpose and who feels enough interest in it to make it the one prime thing he is going to work for.

I have talked to three or four men since I came down here. I didn't come down here expecting to make a speech. We want to find some doctors who are willing to make the sacrifice and go to the House and Senate. I say to you that, as it looks now, we are going to be without a representative in the Senate. I understand the doctor legislator, who worked for us in the last legislature and helped so much in getting what laws we did get, and whose term has expired, will not run again.

From a sense of duty I have felt I was in a position to go to the legislature because a few doctors and a few laymen at home insisted that I go. I made up my mind to go back again to see if I couldn't serve the party I love better than anybody else on the face of the earth, the Missouri State Medical Association, because it represents the flower of the profession, if not in ability certainly in personal interest in the medical profession. I am willing to go back and do what I can again, and right here I would like to say that I need a little more enlightenment upon various questions and a little more advice before I get up to advocate a legislative program.

If we don't get an amendment to the present medical practice act, which I think would be a mistake, we ought to let it alone and let it rest. We may be attacked at any time with an amendment to our own law which may come from sources you little expect. The greatest trouble we had in the last legislature came from a lawyer. Whether he represented some society or somebody else, he very nearly ruined our bill.

It reminded me of a story I heard where a superintendent had a Sunday School class and at Christmas time they were having their Christmas talk. He said, "Now, boys, I want each one of you to get up and tell your experience, tell what the Lord has done for you during this past year."

The first boy got up and said, "The Lord has been good to me." He had given him a good father and mother, a good home. He had everything he wanted, had gotten a lot of presents for Christmas and the Lord had been good to him.

The teacher followed down the line until finally he came to a little fellow with a harelip. He didn't get up and the teacher said, "Johnnie, get up and tell us your experience."

"Oh, uh,"

"Oh, yes, Johnnie, you must get up and tell what the Lord has done for you."

"Well," he said, "the Lord damn near ruined me." (Laughter.)

We had men in the legislature who damn near ruined us. (Laughter.) Our legislature was all gummed up. It looked like a funeral, but fortunately a situation arose where we could get together and the condition was relieved. You have the law now which gives the State of Missouri reciprocity with other states, and which gives her reciprocity with the national board. Those are two important things. I hope when we get back again we won't have this law disturbed.

I am entirely in harmony with the report of the Committee on Public Policy by Dr. Pearse. I think it is along proper lines and I hope you will be able to carry out what he has outlined in his report.

There is a matter I am going to allude to that I think will be all right and that I have talked to the President and other members about. The legislature is in a mood to do something for the crippled children of this state. As you know, we have a survey committee that will report at the next legislature as to what is to be done in this matter. I know from the feeling in the House last winter, when we were fortunate enough to have a little fund to place with the State University for the care of some of these crippled children in a small way, it struck a harmonious chord.

The probabilities are that the same feeling prevails now and when we go back we have a wedge to get in to do much larger things for our state. As a good many of you know, Iowa has a state hospital for all its people, equipped in every

way, which is located in the state capital where the state university is. There is a suggestion, and it seems to me to be a good one, that we have an opportunity now to use this crippled children movement as a wedge for getting the legislators and the public of a mind to care for all the unfortunate. If we could go back to the legislature with a properly framed bill and get a place for these crippled children gathered from all over the state, the charity children, those who have no money, we would have accomplished something. The poor, crippled children could be rehabilitated. It seems to me if we go back there with a bill and don't make too big a demand we could get a bill passed to build a state hospital for our poor crippled children, and crippled and sick adults and those unfortunates who can't pay their own expenses. We could have some of the re-constructive work done in our educational institutions in St. Louis and also the State University here. We have three places where reconstructive work can be done, and if we had a state hospital connected with our University we could teach them not only along the lines of rehabilitating but manual training and our state corps of teachers and university teachers could educate them along the proper lines. Find out from these children the positions they are able to fill. If you have a crippled child that God Almighty has given unusual native ability, direct the way and educate that fellow so that he may become useful. Manual training will enter into it so as to fit these crippled children and make citizens out of them instead of charity subjects over the state.

I believe if this Association gets behind it earnestly we will be able to build this institution, anyhow start it, and we might possibly get it through.

If this suggestion meets with the approval of this body of delegates, then we ought to have a special committee to draw up this law. This law should be made as perfect as it is possible to make it and then place it before the legislature.

If we can just instill in this institution and the doctors of this state that feeling that is enlisted and instilled in them by the patriotism that dwelt within when our war came on, we can get most anything we want. What body of men rose as a body in this last war, and of all ages, when the call to arms came for this country to protect our fair land? The doctors; no other profession. On to our training camps, a few of us old fellows at home to do the work; but the great mass of the profession was right in for it and ready for it before the war was declared. On, on to the training camps! On, on to the passports! On, over the sea! On to France, into the ditches amid filth and vermin and rats, over the top amid shot, shell and saber stroke! What have they been doing? Taking care of our boys, taking care of our soldiers. What for? That we might win a war, that our fair nation would not be under the domination of some other country; that we might win a war, that freedom would still be maintained in this country and that our offspring, those now born and those yet to be born, might live under freedom and under the government of the fairest nation of the world.

This was what activated it. What to do? To stop the imperial march of an autocratic government that sought to march to our national capitol and register the edict of an imperial monarch.

There is no body of men in this country who did more to take care of our soldiery and help this war than the doctors of this state and of other states. See what we can do if the desire is only from within.

I hope we get behind this matter now because I think this is the opportune time. I am willing to go back and give what little is left of me at my age for the benefit of this profession, for the benefit of the constituency of the State of Missouri and give you the last drop I have, and I hope we get somebody else who will have this same feeling and go with me.

I thank you.

The audience arose and applauded.

Dr. W. G. Patton, St. Louis, moved that the House of Delegates approve Proposition No. 1 to amend the Constitution of the State so that members of the legislature shall be paid \$1000 per session instead of \$5.00 per day. Seconded and carried.

Care of Crippled Children

Dr. W. H. BREUER, St. James: I should like to see this House of Delegates go on record as approving the suggestion of Dr. Wallace to draw up a bill and get behind the movement to increase our capacity for caring for the crippled children of the state. We all know there is no greater need, no more crying need in the State of Missouri today among any class of people than there is among the crippled children who are in indigent circumstances and unable to be cared for by their parents. The ladies' clubs all over the state, the Federation of Women's Clubs are making a wonderful concerted effort to get behind this movement, and I think this is the time for the doctors of the state to get

behind this movement along the lines suggested by Dr. Wallace who is very thoroughly conversant with this situation.

I move that this House of Delegates go on record as being in favor of this proposition and instruct the Committee on Public Policy to draw up a bill in conformity with the suggestions made by Dr. Wallace to establish a state general hospital at Columbia not only for treating crippled children but for the poor and derelict of the state whatever their ailments are. Seconded by Dr. T. B. M. Craig, Nevada.

PRESIDENT NIFONG: May I make an explanation of this? If I am not mistaken, Dr. Wallace's suggestion and idea was that we go on record, not a minimum one but as a major proposition, as favoring the building of a state general hospital for the derelicts of the state, a bigger, broader proposition, you might say, than for crippled children alone. Primarily it is a crippled children proposition just as it was in Iowa. In Iowa it originally began as a crippled children's hospital and they obtained medical service for the derelicts, crippled everybody and sick everybody unable to pay, as indicated to you in my message. I understand that it is Dr. Wallace's idea for us to get behind such a program of hospitalization for the poor of the state, primarily of course to render service to the poor of our state. The first object would be for the crippled children, but not necessarily limited to crippled children. That is an appealing thing and that is what appeals to the heart of the legislator.

DR. BREUER: You know we have had this proposition up before. Dr. Nifong, Dr. McComas and myself were on a committee several years ago and we couldn't get very far with it at that time because the sentiment was not strong for it. We drew up plans and spent a good deal of time and money, and a great deal of sacrifice on the part of all three of us, to try to do something along this line but at that time the sentiment was not at the proper point for us to be able to get anywhere with it. As Dr. Nifong has just now explained, the proper time is here.

PRESIDENT NIFONG: I might state a little more for your information, that the State Association has been behind a proposition of a general hospital, a true eleemosynary, and not a university hospital. We had a bill in the legislature two sessions ago, which failed and didn't go any further than the committees, whereby we were to have a state hospital or university hospital in which the derelicts and poor people of the state could be treated and medical teaching obtained at the university. We have always been behind the proposition of a new eleemosynary for these derelicts, sick and crippled children, and what not, all over the state with the proper laws functioning so they may enter. In one of my dreams I even had county and community hospitals articulating with this general hospital, which you might call the supreme court of the hospitals, where we would send our patients to the articulating hospitals as a school sends its students to the university.

That is our ideal and our idea, and that is what we have been committed to for some years. Now is the psychological time, according to Dr. Wallace, that it might be revived and talked about at least even if we don't get anywhere.

DR. W. A. CLARK, Jefferson City: I should like to have the motion stated. If it is as specific as Dr. Breuer's original motion was, I am opposed to it. If it is a motion to get behind the idea, I am in favor of it.

DR. W. H. BREUER, St. James: I made the motion that the House of Delegates go on record as getting behind the suggestion made by Dr. Wallace to establish a state general hospital at Columbia not only for treating crippled children but for the poor and derelict of the state whatever their ailments are.

DR. L. C. CHENOWETH, Joplin: I don't believe Dr. Wallace's suggestion embodies the idea that Dr. Breuer suggests. We thrashed out this question of establishing rural and state medical education connected with the university, but it is not my understanding of Dr. Wallace's suggestion that we locate a hospital at Columbia. I think it is all right to go on record as favoring it, but I think it is wrong to designate any place.

DR. C. H. WALLACE, St. Joseph: I left out any reference to location. I think that is a matter that has to be worked out afterwards. I meant to start something. This is the opportune time for us to work. I believe it would be a mistake to put the location in the bill in the first place because that should be worked out at our next legislature. It seems to me that if we just get behind this and favor it, the whole thing will work itself out.

The drawing of this bill is a very important matter and would have to be done by the best legal talent in order to get a bill that would hold water and might be passed.

Dr. E. C. Grim, Kirksville, moved to strike out the word "Columbia." Seconded by Dr. L. J. Schofield, Warrensburg, and carried.

PRESIDENT NIFONG: The motion is now in the question as amended.

Dr. E. P. MONAHAN, Kansas City. I move to lay the motion on the table. Seconded and carried.

Dr. C. E. Hyndman, St. Louis, presented the report of the Committee on Defense, as follows:

REPORT OF COMMITTEE ON MEDICAL DEFENSE

Cases pending May 2, 1927.....	17
Threats pending May 2, 1927.....	3
New cases during year	10
New threats during year	6
Cases settled during year	11
Threats which have not developed into suits....	3
Threats pending May 1, 1928.....	6
Cases pending May 1, 1928.....	16
Financial assistance rendered during 1927-1928.....	\$400.00

Your committee would respectfully request that the sum of \$1000 be added to our fund if the Council sees fit. We have twenty-two cases on file and not enough money in sight to take care of them if most of them go against us. As you know, each case costs us about \$100.

CHAS. E. HYNDMAN, Chairman
M. L. KLINEFELTER,
O. B. ZEINERT.

Dr. R. E. Schluter, St. Louis, moved that this Committee's report be accepted and referred to the Council. Seconded by Dr. G. W. Hawkins, Salisbury, and carried.

Dr. R. L. Thompson, St. Louis, presented the report of the Committee on Postgraduate Course, as follows:

REPORT OF THE COMMITTEE ON POST-GRADUATE COURSE

Speakers have been sent to the following societies: Greene, Howell-Oregon, Texas, Jasper, Marion, Pettis, Pike, Daviess, Southwest Missouri, Wright-Douglas, Third District composed of Gentry, Dekalb, Harrison and Worth Counties, Callaway.

To some of these societies speakers have been sent on two or more occasions. In Jasper County two speakers were sent for three meetings in February. In Pettis County two speakers were sent in April and again in May. In nearly all instances the Committee arranged for two speakers to attend each meeting. At the Southwest Missouri Medical meeting three speakers were assigned to address that body. In several instances where the county society notified the speaker and then requested the Postgraduate Committee to confirm the arrangement only one speaker was sent.

While the general attendance has been good at these meetings there have been times when the speakers have been greatly disappointed by lack of attendance. The Committee feels that some guarantee of attendance should be made whenever speakers are requested.

At the request of President Nifong, Dr. Guy L. Noyes, Columbia, assisted by Dr. C. B. Francisco, Kansas City, the other member of this Committee, was appointed to arrange for the clinic day at this session, the details of which you will find in the program. Drs. J. C. Bloodgood and Thomas S. Cullen, both of Baltimore, Elliott P. Joslin, of Boston, and Frank C. Neff, of Kansas City, are the speakers for the Postgraduate Committee. In addition to this work, the laboratories of the University have been opened for the demonstration of various clinical tests.

We hope to make this clinic day a regular feature of our Annual Meeting. This, of course, will depend upon the attendance. I hope you will show us by your attendance at the present meeting that you wish to continue this type of program.

RALPH L. THOMPSON, Chairman
C. B. FRANCISCO,
GUY L. NOYES.

Dr. C. E. Hyndman, St. Louis, moved that the report of the Committee be accepted and referred to the Council. Seconded and carried.

Dr. M. P. Overholser, St. Joseph, presented the report of the Committee on Constitution and By-Laws, as follows:

REPORT OF COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS

In this report your committee wishes to state that during the past year it has endeavored to learn, by various means, what changes in the Constitution and By-Laws the members

of our Association thought advisable, but thus far only one suggestion of a change has been recommended, which is as follows:

Amend Section I of Chapter VIII of the By-Laws by changing the word "two" in the fourth line to the word "four," so that the first five lines of this section shall read as follows:

Chapter VIII. Dues and Assessments

Section I. The annual dues shall be eight dollars and shall be levied per capita on the members of the component societies of the Association, provided that for the first four years subsequent to graduation the annual dues shall be one half of the regular dues.

The purpose of this change, which your committee recommends for adoption, is to give the graduates of medicine, many of whom serve from one to two years as interns in hospitals with but little or no pay, an opportunity to join our Association with several years of time to establish themselves in the practice of their profession before being required to pay the full amount of the dues.

M. P. OVERHOLSER, Chairman
ROLAND S. KIEFFER,
W. K. TRIMBLE.

PRESIDENT NIFONG: This goes to the Reference Committee on Constitution and By-Laws, and is so referred.

The President appointed the Committee on Nominations, as follows:

Committee on Nominations

W. H. Breuer, St. James, Chairman.

J. C. B. Davis, Willow Springs.

M. O. Biggs, Louisiana.

R. L. Thompson, St. Louis.

R. M. James, Joplin.

W. L. Veirs, Pleasant Hill.

W. M. West, Monett.

H. S. Major, Kansas City.

A. H. Marshall, Charleston.

W. H. Goodson, Liberty.

On motion the meeting adjourned at 12:05 p. m.

Monday, May 14, 1928—Afternoon Session

The House of Delegates convened at 3:05 p. m., President Nifong presiding.

Dr. R. A. Woolsey, St. Louis, reported for the Committee on Medical Education and Hospitals, as follows:

REPORT OF COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

In the first place, among the most important of the activities is the fact that we closed a couple of hospitals in St. Louis that were not in very good shape, the Liberty Hospital and the Williams Hospital. The Liberty Hospital first went into the hands of a receiver and then was purchased for an old folks' home. The Liberty Hospital, with the aid of the cyclone, debt, and a few other things, was closed.

We have the Lutheran and the Mullanphy hospitals on the accredited list of the A. M. A. for internship. They have been accredited with the College of Surgeons for quite a while, but they are now lined up with the A. M. A. accredited for internship.

Dr. Joseph W. Love, Springfield, Chairman of the Committee on Medical Economics, reported as follows:

REPORT OF COMMITTEE ON MEDICAL ECONOMICS

I feel as I imagine John the Baptist felt when the Master came before him. I feel more like being ministered unto on the subject of medical economics than to administer to you.

Apropos of that remark, I have a confrere down in Springfield who, before he launched his distinguished career as a practitioner of ophthalmology and otolaryngology, served a number of years as minister of the Gospel, and some of my confreres were kind enough to say when this gentleman quit preaching and went to doctoring that Love should have quit practicing medicine and gone to preaching. (Laughter.)

At one time I was obsessed for a season with the notion that I had some ideas on the subject of medical legislation, and I prepared a discourse to be read before this Association. When we met in Springfield, after some solicitation,

I was accorded the privilege of the floor for ten minutes. I think my good friend, Wilse Robinson, who I was sorry enough to see was in the chair at that time, knew I couldn't deliver my address in the allotted time unless I did it hurriedly. I launched forth in it, and before I was aware of it the Chair began to rap to indicate that I was exceeding my time. In order to complete it within the allotted time I hurried right along, but he kept rapping the table. Finally the malleus flew off the handle and struck our worthy Secretary on the side of the head, and that worthy, not being of robust health, fell over in a faint. Somebody threw a pitcher of water in his face, and he looked up as much as to say, "Hit me again, I am still here." (Laughter.)

I just have a few notions about medical economics that I always practice. I make it a rule in the month of May to work out in my garden. I pay my office rent in advance, pay up all my monthly bills, buy me a new suit of clothes and a new hat and come to the Medical Society meeting. (Laughter.) I want to say that in my home town I don't owe anything except what I owe my bank. I make it the rule of my life to live off my income if I have to borrow the money to do it. (Laughter.)

I think it was my very noble and esteemed good friend, Herman E. Pearse, who was the first man to congratulate me on my appointment to this Committee. While he was very emphatic in his expressions of his judgment that there was nothing in it, he led me to think, by his manner and conversation, that under the circumstances he thought my appointment to the Committee was very appropriate. (Laughter.)

In my experience of many years when any subject of medical legislation or the relation of the medical profession to the pulpit has been under consideration in this Society I found myself in full and complete accord with Dr. Pearse. I have always been disposed to question my original judgment. (Laughter.) In this instance his opinion appears to be so sound that after mature deliberation I feel constrained to concede that he was possessed, in this instance, by an inspiration or a lucid interval. (Laughter.)

I could go on and talk this way and never get anywhere. In an allusion to the ancients it was Cicero, I think, that we heard quoted on this floor by our distinguished president, *Tempora mutantur et nos mutamur in illis*,—"The times are changed and we are changed with them."

Since the time of Herbert Spencer I believe sociologists have agreed that the foundation of science in sociology is biology, and those of us who know anything about living organisms know that those that survive adapt themselves as individuals through changing conditions. If we are to correct any troubles in the question of medical economics they must of necessity be the result of changing conditions and we must meet them by adapting ourselves as individuals to those conditions rather than any mass reaction by an organized society.

The good roads and the automobile and the modern facilities for diagnosis, modern hospital facilities, nursing, and the public health prevention of insidious diseases has completely revolutionized the practice of medicine in all civilized countries. Just as modern industrialism has completely revolutionized our social conditions it will be necessary for us as doctors making a living from our profession to adapt ourselves to those conditions. It becomes so easy for the rural inhabitants to get to town and so easy for the city practitioner to get to the country, that most of the country practitioners have either died or starved out or moved to town. (Laughter.) The young men have all gone to the city. In my own town, certainly in my own department which I know more about than anything else, there are too many of us. (Laughter.) I was going to punctuate that with a profane expletive, but I think perhaps we ought to leave it out of the minutes. (Laughter.)

The young man who comes out from a school now and can ally himself with a group has a means of subsistence without much difficulty. When I was a young man and began to practice medicine it was the style to have old men. Everybody preferred old men, and now during the changing styles, and as I am an old man, everybody prefers a young man. (Laughter.) We have got to adapt ourselves to the conditions. (Laughter.)

I have read something of anthropology and I am very much interested in the psychology of the savage medicine man. When I consider the career of Paracelsus and some others, I am disposed to believe that any man to be successful, that is preeminently and superlatively successful, has to have some of the instincts of the savage medicine man. (Laughter.) That is, just tinctured a little with charlatanism. As an illustration of that, you will recall the words of Macbeth in the play when Lady Macbeth gets mixed up in a murder and she can't get the blood off her hands. She goes into a hysterical fit and he sends for the doctor. The court physician comes in and examines her in her private apartment. He then comes down to the library where Macbeth is waiting for him. "How does your patient, doctor?"

"Not so sick, my lord, as she is troubled with thick-coming fancies that keep her from her rest."

Macbeth: "Cure her of that. Canst thou not minister to

a mind diseased, pluck from the memory a rooted sorrow, raze out the hidden troubles of the brain, and with some sweet oblivious antidote cleanse the stuff'd bosom of that perilous stuff which weighs upon the heart?"

"Therein, my lord," said the doctor, "the patient must minister to himself."

Macbeth said, which is very characteristic of the single-track Rotarian-minded go-getter (laughter): "Throw physic to the dogs, I'll none of it. Send for an osteopath." (Laughter.)

It is really an individual question. As Dr. Pearce says, he is going to contend that it belongs to his Medical Relations Committee. That is a pretty wide territory. I notice he talked about a great many things I am interested in, and I don't know to what generous influences I owe my appointment to this Committee, but from the activities which I manifested on the subject of medical legislature here a few years ago and the disturbances which I occasioned I am compelled to recall the incident of a forward child who saw the moon and cried for it. The indulgent mother gave it a ginger tit and pulled down the shade. (Laughter.)

The Committee has had two meetings, one in Springfield and the other one just before Christmas in Kansas City, and we have considered a great many things in the line of medical economics. Dr. Gradwohl was good enough to write me a little letter and forward a written manuscript of some suggestions which he made before his departure to some training camp. I think it was Pacific Fleet surgeon or some other thing. He has good reason for not being here and he did his duty before he left. Dr. Gilliland is here and he will perhaps have something to say on the subject.

I suppose after these few scattering remarks you will not think it much of a report, but I am thanking you for the privilege of speaking to you. (Laughter and applause.)

PRESIDENT NIFONG: I am sure you agree with me that that is the most interesting report of the session.

Dr. W. H. Breuer, St. James, read the report of the Council as follows:

REPORT OF THE COUNCIL

The Executive Committee has held two meetings since the last Annual Session and the Council held the December meeting required by the By-Laws.

The first meeting of the Executive Committee was held in St. Louis, April 8, 1927. At this meeting the President, Dr. Frank G. Nifong, Columbia, submitted his appointments to committees which were approved by the Executive Committee and have been published in every issue of THE JOURNAL.

At the suggestion of the President, the Executive Committee instructed the Program Committee to prepare a postgraduate session under the direction of the Postgraduate Committee for Friday, May 18, the day following the close of our regular scientific session. This instruction has been carried out and in your program you will find a postgraduate arrangement under the title of Clinic Day.

Meeting of December 7, 1927

The midwinter session of the Council was held in Kansas City, December 7, 1927. There were 21 members of the Council and officers of the Association present and in addition 24 members of the various committees and other members of the organization attended the meeting.

At this meeting the date of the 71st Annual Meeting at Columbia was fixed for May 14, 15, 16, 17.

The General Committee on Arrangements for the Annual Meeting was appointed consisting of Dr. A. R. McComas, Surgeon, Chairman; Dr. W. M. West, Monett; Dr. W. L. Allee, Eldon. Upon nomination by this committee Dr. Dudley A. Robnett, Columbia, was appointed General Chairman of the Local Committee on Arrangements.

Reports from committees were heard, the Program Committee reporting such progress in the preparation of the Scientific Work that the program was almost full.

On motion of Dr. W. H. Breuer, St. James, duly seconded, the Program Committee was authorized to invite several out of state guests to address our session at Columbia. The names of these guests are in the program and you will hear them during the session. The Program Committee also reported having made arrangements with the Postgraduate Committee to conduct a Clinic Day on Friday, May 18, following the adjournment of the regular session.

Dr. Ralph L. Thompson, St. Louis, Chairman of the Postgraduate Committee, reported excellent progress in the work of his committee. County societies and districts were asking for speakers with increasing frequency and he predicted a good year for the activities of his committee. He said the committee has over 100 names on file of members who have expressed their willingness to answer calls for speakers.

Dr. C. E. Hyndman, St. Louis, Chairman of the Committee on Defense, reported a gratifying continuance of this

committee's helpfulness to members particularly in preventing the filing of suits where demands had been made upon physicians. He also mentioned several instances where suit had been filed after the two year limit had expired. When this was pointed out to the member by the committee the suits, of course, were withdrawn.

Dr. H. E. Pearce, Kansas City, Chairman of the Committee on Public Policy, reported on plans being drawn to prevent the broadcasting of propaganda over radio stations by proprietors of unapproved health schools and sanatoriums. Complaints have been lodged with his committee concerning this sort of activity and with the cooperation of the county societies steps have been taken to induce radio stations to stop this practice. He also reported that efforts are being made to amend the radio law in Congress to prohibit the broadcasting of false, misleading and deceptive information. Another endeavor of his committee is to cooperate with the Committee on Revision of the Statutes reported by the last legislature to protect the integrity of our medical and health laws.

Other committees reporting at this session were the Committee on Medical Education and Hospitals, Dr. R. A. Woolsey, St. Louis, Chairman; the Committee on Publication, Dr. T. W. Cotton, Van Buren, Chairman; the Committee on Medical Economics, Dr. J. W. Love, Springfield, Chairman.

The Council approved the movement to submit an amendment to the Constitution of the State increasing the amount paid to legislators to \$1000 instead of the \$5.00 per day payment now in force.

The Council adopted a motion to instruct our delegates to the American Medical Association to nominate Dr. Samuel C. James, Kansas City, an Honor Member now incapacitated on account of illness, for Affiliate Fellowship of the American Medical Association at the meeting of that body in Minneapolis, June 11.

The Committee on Auditing and Appropriations, Dr. O. C. Gebhart, Oregon, Chairman, submitted a budget of expenses for 1928 which was adopted by the Council.

Meeting of April 27, 1928

The Executive Committee held its second meeting at St. Louis on April 27, 1928.

The secretary reported on the suit brought by Dr. A. L. McKenzie, owner of the Kansas City University of Physicians and Surgeons, for \$1,200,000 against the Jackson County Medical Society, the Missouri State Medical Association and the American Medical Association. This suit was filed in March, 1924, and trial was postponed until disposition of a suit in the Supreme Court by the Attorney-General asking the revocation of McKenzie's charter for violation of the terms of his charter. The Supreme Court found McKenzie guilty and revoked the charter. The suit against us for \$1,200,000 was then called and on March 6, 1928, trial was started. After challenging the jury and preparing for trial the court found that the principal defendants had not been subpoenaed to appear and ordered the case dismissed. This is a final disposition of the suit.

A proposition from Dr. M. A. Bliss for the establishment of a department of mental diseases in the board of eleemosynary institutions was referred to the Council and was approved.

An amendment to our By-Laws to be proposed by the delegates of St. Louis Medical Society extending the period of junior membership from two years to four years after graduation was approved.

The secretary reported that St. Francois County, Iron County and Washington County desire to combine and form the St. Francois-Iron-Washington County Medical Society. He also reported that the Texas County Medical Society had been affiliated with the Howell-Oregon-Texas County Medical Society and that Wright-Douglas County Medical Society desire to become affiliated with the Howell-Oregon-Texas County Medical Society, making in this instance five counties in one Society for scientific work. This consolidation was approved.

The secretary reported that the effort to have Congress permit the deduction of traveling expenses while attending medical meetings would probably not pass. The Senate Committee had declined to approve the bill and it was not likely that it could be passed on the floor of the Senate. The secretary reported that he had been in touch with numerous bills in Congress affecting public health and that he found congressmen from Missouri were very receptive of our views in such matters and showed the disposition to cooperate with us in their action on such bills.

The report of Kessler, Cartall & Company on the audit of our accounts for the year 1927 was submitted by the secretary. This report was published in the May issue of THE JOURNAL.

The Council indorsed the recommendation of President Nifong to establish four years of medical teaching at the State University and indorsed the President's recommendation that ethics be taught in medical schools.

An appropriation of \$1000 is recommended to be transferred from the General Fund to the Defense Fund.

The Council approved a donation of \$250 to the Associa-

tion for Proposition No. 1 to amend the Constitution of the State by making the compensation for services of members of the General Assembly \$1000 per session instead of \$5.00 per day.

Dr. Breuer moved the adoption of the report. The motion was seconded and carried.

DR. FRANK I. RIDGE, Kansas City: In order that this Association express to Dr. McComas an appreciation of the work he has done under most trying circumstances and ill health in compiling this report, I move that this Association from the bottom of our hearts, extend to Dr. McComas our appreciation of his energy that while sick and in the hospital he has prepared such a splendid report of the work of the Council. The motion was regularly seconded and carried unanimously.

DR. H. S. MAJOR, Kansas City: The delegation from Jackson County composed of ten members adopted unanimously the following resolution:

RESOLUTION OF MEDICAL EXPERT TESTIMONY

Resolved, That the House of Delegates of Missouri State Medical Association condemn the practice of giving expert medical testimony both by the state and defense in criminal cases where insanity is a plea; furthermore, it is recommended that the By-Laws of the Missouri State Medical Association be amended in this respect and that any member violating this portion of the By-Laws shall be amenable to the board of censors of his Society for unethical conduct; be it further

Resolved, That steps be taken through the legislative committee to have the next legislature enact a law whereby a state commission of alienists shall be created to examine and pass on all criminal cases in which there is any question of insanity.

This is not perfect and we didn't intend it to be perfect. It is just a start. There is no use of trying to shut off paid testimony for the defense unless we shut off testimony for the state too.

In regard to the commission of alienists, it is taken for granted that it will be a nonpartisan board similar to the one now in existence in the State of Massachusetts. I think the figures are that out of 161 cases brought before that state commission, cases in which there was any question of insanity, 101 were found to be insane and were sent to a state hospital. I don't mean they were sent to the state hospital and then discharged in two or three weeks or two or three months. I mean they were sent there and stayed there until they recovered, if that were possible. The others were sent to the penitentiary. There were only two who afterward developed insanity and their cases were reviewed by the commission and they were transferred to the state hospitals.

Personally, I have in the past testified both for the state and the defense, and I will say that I haven't testified in any expert testimony for about two years and a half because I saw the trend. I had plenty of chances during the last two and one-half years to testify, but I have turned them down, and sometimes am almost ashamed to admit that I am a neuropsychiatrist.

DR. R. M. SCHAUFFLER, Kansas City: I think this is something that is very timely. You have all heard of the Hickman case and you have all heard of the testimony that was given in that particular case. There have been quite a number of instances, not so flagrant, in which the doctor has testified as to the insanity of the individual when we all knew unquestionably the man was not insane at the time the deed was committed. It was for this reason that this resolution was brought up.

Lawyers are getting to consider the doctor a

laughing stock, especially in insanity cases, and in practically every case that comes up they seek some doctor to testify that the person is insane. They are usually able to find someone to do that. That was the idea in bringing this up for the society to squelch.

PRESIDENT NIFONG: The resolution is referred to the Reference Committee on Constitution and By-Laws.

Dr. C. H. Shutt, St. Louis, introduced the following resolution:

Resolution on Department of Mental and Nervous Diseases

Resolved, That for the welfare of the State of Missouri and of the mentally disordered and the mentally defective citizens thereof, we, as the representative medical body of the state, desire the development of a group of specially trained persons for State Hospital service who shall be by statute provided with security of tenure, adequate pay and comfortable housing; be it further

Resolved, That to meet the difficult public health problems involved in the study and care of the insane and mentally defective there should be organized a State Department for Nervous and Mental Disease patterned after those long in successful operation in other states, which shall be directed by a highly skilled psychiatrist and a board of representative citizens some of whom shall be physicians.

DR. M. P. OVERHOLSER, St. Joseph: I think this is a good resolution and move its adoption. The motion was regularly seconded.

DR. JOSEPH GRINDON, St. Louis: I take it we are all very much in favor of this motion but I am asking myself whether there is anything more we can do in this very important matter. We have adopted resolutions before and this is one more that may go down on paper. Would referring the matter to the Committee on Public Policy be a more direct way of getting at it? Perhaps a smaller body such as that is would devise something more effective than the larger body can. Certainly if there is any class of people who should be saved from exploitation by politicians it is just this class of people. I think, irrespective of our political affiliations, we must deeply deprecate what has taken place under the state administration by which efficient men have been discharged and men far less efficient have been put in the positions resulting in the care of the mentally diseased suffering a setback. I would submit the following as a substitute to the motion:

Moved that the resolution be referred to the Committee on Public Policy with instructions to formulate a plan for the creation of a department of nervous and mental diseases and introduce a measure in the legislature to cover it.

Seconded by Dr. R. E. Schluter, St. Louis, and carried.

PRESIDENT NIFONG: The next order of business will be the selection of the place for the next meeting of the State Association.

Dr. Joseph W. Love, Springfield, presented an invitation from the Greene County Medical Society for the Association to meet in Springfield in 1929.

Dr. S. R. McCracken, Excelsior Springs, invited the Association to meet in Excelsior Springs and presented an invitation from the Clay County Medical Society. This invitation was seconded by Dr. Spence Redman, Councilor of the 12th District.

Dr. L. C. Chenoweth, Joplin, representing the Jasper County Medical Society, invited the Association to meet in Joplin.

Dr. W. A. Clark, Jefferson City, extended an invitation for the Association to meet at the Capital.

Dr. A. J. Campbell, Sedalia, carried a cordial invitation from the Pettis County Medical Society for the Association to meet in Sedalia.

Dr. Breuer moved that the Secretary call the roll and the votes be tallied as each delegate voted in order to save time required by voting by ballot. The motion was seconded and carried.

The Secretary called the roll and the President announced the following result:

Springfield	27
Excelsior Springs	14
Joplin	6
Jefferson City	13
Sedalia	2
Total	62

Necessary to a choice 32 votes.

DR. JOSEPH GRINDON, St. Louis: Since Springfield is within five of the majority, I move that we make it unanimous for Springfield. The motion was regularly seconded and carried unanimously.

DR. W. H. BREUER, St. James: This morning a motion was laid on the table and I now move that it be removed from the table and placed before this body for consideration.

DR. E. P. MONAHAN, Kansas City: I second the motion. The question was put and carried.

PRESIDENT NIFONG: The motion now before the House as amended by striking out the word Columbia is:

Dr. Breuer moved that the House of Delegates go on record as getting behind the suggestion made by Dr. Wallace to establish a general hospital not only for the treatment of crippled children but for the poor and derelict of the state whatever their ailments may be.

DR. W. H. BREUER, St. James, offered a substitute for that motion as follows:

Moved that the House of Delegates of the Missouri State Medical Association recommend to the General Assembly the establishment of a state general hospital for the treatment and education of indigent and crippled children of Missouri and for other indigent and crippled citizens of Missouri, patterned after the law of our sister state of Iowa.

DR. R. E. SCHLUETER, St. Louis: I second the motion.

Discussion by Drs. Joseph Grindon, St. Louis, W. H. Breuer, St. James, President Nifong, L. C. Chenoweth, Joplin, C. P. Dyer, St. Louis, C. H. Shutt, St. Louis.

The question was put and the motion carried.

PRESIDENT NIFONG: This will automatically be referred to the Committee on Public Policy.

DR. H. LEWIS HESS, Kansas City: In presenting this matter I realize that many of you men have been in touch with the legislature and conditions in the state many years whereas my experience is comparatively limited, but I was very much surprised this morning when the subject was brought to my attention concerning the salary of our Secretary, Dr. Goodwin. In looking this matter up on short notice, I find that we are paying the smallest salary of any state medical association to their secretary, and I felt that a resolution along this line was in order. I have this resolution to present:

WHEREAS, The Secretary of the Missouri State Medical Association, Dr. E. J. Goodwin, has devoted many years of faithful service to this Association; and

WHEREAS, He has devoted his entire time to the work exclusive of private practice; and

WHEREAS, The salary he has received has been and now is much less than salaries paid by other state medical associations, therefore be it

Resolved, That the House of Delegates of the Missouri State Medical Association recommend to the Council of the Missouri State Medical Association that the salary of our Secretary be increased to \$6000 annually.

The present salary, I understand, is \$4800. I move the adoption of the resolution. (Applause.)

The motion was severally seconded and carried unanimously. (Applause.)

On motion the meeting adjourned at five o'clock.

HOUSE OF DELEGATES

Wednesday, May 16, 1928—Afternoon Session

The Third Session of the House of Delegates convened at 4:15 p. m., Wednesday, May 16, 1928, President Nifong presiding.

PRESIDENT NIFONG: On account of the lateness of the hour, we will dispense with the reading of the minutes.

Report of Reference Committee on Constitution and By-Laws

Dr. C. H. Neilson, St. Louis, Chairman of the Reference Committee on Constitution and By-Laws reported as follows:

Your Reference Committee had before it a resolution introduced by Dr. Major, Jackson County, and signed by the entire delegation from Jackson County, pertaining to expert medical testimony in criminal cases where insanity is a plea. (Page 341.)

Your committee has studied this resolution and found it to consist of three distinct divisions which we believe should be dealt with separately.

The first part of the resolution we recommend should stand as it is, viz:

Resolved, That the House of Delegates of the Missouri State Medical Association condemn the practice of expert testimony, both by the state and by the defense in criminal cases where insanity is a plea.

The second part of this resolution should be turned over to the Council for careful study and the development of a by-law covering the subject. The committee feels that great care should be taken in the wording of this by-law. This part of the resolution reads as follows:

Furthermore, it is recommended that the By-Laws of the Missouri State Medical Association be amended in this respect and that any member violating this portion of the By-Laws be amenable to the board of censors of his society for unethical conduct.

The third division of this resolution should be turned over to the Committee on Public Policy, who should study the question thoroughly and take the matter before the next state legislature. If a law could be enacted covering this part of the resolution it would do away with any consideration by the Association of the first two divisions of this resolution. This division of the resolution reads as follows:

Resolved, That steps be taken through the Committee of Public Policy to have the next legislature enact a law whereby a state commission of alienists shall be created to examine and pass on all criminal cases in which there is any question of insanity.

Respectfully submitted,

C. H. NEILSON, Chairman
A. J. CAMPBELL,
W. A. BRAECKLEIN.

Dr. F. J. V. Krebs, St. Louis, moved the adoption of the report. Seconded and carried.

Dr. H. L. Kerr, Crane, presented a resolution extending the thanks of the Association to Dr. A. R. McComas, which was severally seconded and carried unanimously, as follows:

Resolutions of Thanks to Dr. A. R. McComas

WHEREAS, Dr. A. R. McComas, Chairman of the Council, a faithful member of our Association, a man who has worked in and out of season for the upbuilding of the profession of Missouri and who is at this time missing his first meeting in the last thirty years, is now and has been for the last six weeks, confined in the hospital on account of serious illness, therefore be it

Resolved, That the House of Delegates through our honorable president, Dr. Frank Nifong, express to Dr. McComas our most sincere sympathy and our earnest hope for his early complete recovery.

Dr. W. H. Breuer, St. James, introduced the following resolution:

Resolution of Sympathy to Dr. W. J. Ferguson and Dr. Guy L. Noyes

Whereas, Dr. W. J. Ferguson, one of the delegates to the American Medical Association, and Dr. Guy L. Noyes, Dean of the Medical School of the State University, are sick and prevented from attending our meetings this year, we desire to express our sincere regret for their illness and we hope for their speedy recovery.

Dr. Breuer moved the adoption of the resolution and that the Secretary be instructed to convey it to Dr. Ferguson and Dr. Noyes. Seconded and carried.

PRESIDENT NIFONG: The next order of business is the installation of the President. I will appoint Dr. Neilson and Dr. Kinard to conduct President-Elect Ridge to the platform.

The audience arose and applauded as President Ridge took the chair.

PRESIDENT RIDGE: It is a great honor to have this imposed on me right at this time. As I said a year ago when elected, I have only one hope, that I will be able to fill the chair and carry on the good work Dr. Nifong has already started, but, as I said then, he has taken most of my fireworks away. He has been so active in starting things that the only thing I can see to do is to carry on his work and push it. (Applause.)

Nomination of Members of Standing Committees

PRESIDENT RIDGE: The next order of business is the nominations for standing committees. In order to maintain the working organization as it has been I think those on committees who have done such excellent work should be taken into consideration in preparing the new committees.

Dr. Stowers, Kansas City, has been on the Committee on Scientific Work, and I should like to present his name for reappointment.

On the Postgraduate Work is Dr. Guy L. Noyes, of Columbia, whose term expires this year. While now ill I think it is rather essential that he maintain his place on this Committee.

On the Publication Committee we have expiring Dr. M. A. Bliss, St. Louis, and I should like to submit his name for reappointment.

On our Public Policy Committee we have Dr. Robert Vinyard, of St. Louis, who has always done excellent work and knows the workings of this Committee. I should like to present his name to maintain his position on that Committee.

The same holds true of Dr. O. B. Zeinert, St. Louis, on the Defense Committee. I can think of no more air-tight Defense Committee than the one we have had for several years composed of Dr. Hyndman, Dr. Klinefelter and Dr. Zeinert, all of them being in St. Louis and working in perfect union. I should like to submit his name.

On the Medical Education and Hospitals Committee is Dr. H. P. Kuhn, Kansas City, term expiring in 1928. I should like to recommend his reappointment.

On Medical Economics is Dr. O. S. Gilliland, Kansas City. I should like to resubmit his name.

On the Revision of Constitution and By-Laws, Dr. Overholser was rather cheated of his work, as was the whole committee last year in that we just revised the Constitution and By-Laws, and one working year was not enough to find out what we needed, so I should like to reappoint Dr. W. K. Trimble, Kansas City, upon that Committee.

Dr. W. H. BREUER, St. James: I move that the House of Delegates approve these appointments. Dr. H. S. Major, Kansas City, seconded the motion, which carried unanimously.

PRESIDENT RIDGE: The next order of business is the election of the President-Elect.

Nomination of President-Elect

Dr. C. H. SHUTT, St. Louis: Gentlemen of the House of Delegates: I think we all agree that this has been the most successful session of the Association during the history of its existence. As years go by and solidarity and harmony are brought about we profit and we grow both in numbers and in influence. This condition has not always prevailed. The Missouri State Medical Association originally was not what it is today, and it has required a great many years of sacrifice and patient endeavor on the part of a number of wheel horses in order to reach the stage that we now occupy both in influence and prestige.

We have among our membership a gentleman who has never sought anything for himself, who has attended every meeting of this Association for over a quarter of a century, who has not only been a leader in the organization of this society but stands as a leader in the organizing of social influences in the community. He is an outstanding man and I am very glad to place before you for your favorable consideration Dr. T. W. Cotton, Van Buren. (Applause.)

Dr. Joseph W. Love, Springfield, seconded the nomination.

Dr. H. S. Major, Kansas City, moved that the nominations be closed and that the Secretary cast the ballot for the election of Dr. Cotton for President-Elect.

Dr. W. C. Gayler, St. Louis, seconded the motion which carried unanimously.

SECRETARY GOODWIN: It gives me pleasure to cast the ballot of the House of Delegates for the election of Dr. T. W. Cotton, Van Buren, for President-Elect.

The President appointed Dr. Shutt and Dr. Love to escort Dr. Cotton to the rostrum.

Report of the Nominating Committee

Dr. W. H. Breuer, St. James, read the report of the Nominating Committee as follows:

We, your Nominating Committee, appointed to submit nominations for the various offices expiring this year desire to submit the following nominations for your consideration:

For Delegates and Alternates to the American Medical Association 1928-1930:

E. H. Skinner, Kansas City, Delegate; E. H. Trowbridge, Kansas City, Alternate.

W. J. Ferguson, Sedalia, Delegate; S. L. Baysinger, Rolla, Alternate.

A. R. McComas, Sturgeon, Delegate; H. L. Kerr, Crane, Alternate.

For Councilors:

1st District, O. C. Gebhart, Oregon.

3rd District, J. A. Crockett, Stanberry.

5th District, J. R. Bridges, Kahoka.

7th District, T. J. Downing, New London.

9th District, A. R. McComas, Sturgeon.

11th District, J. H. Timberman, Chillicothe.

13th District, O. S. Gilliland, Kansas City.

17th District, Guy Titsworth, Sedalia.

19th District, J. S. Summers, Jefferson City.

21st District, T. F. Estel, Altenburg.

23rd District, J. B. Luten, Caruthersville.

24th District, A. R. Rowe, Poplar Bluff.

25th District, R. W. Gay, Ironton.

27th District, J. C. B. Davis, Willow Springs.

29th District, R. M. James, Joplin.

Respectfully submitted,

W. H. BREUER, Chairman

R. M. JAMES, Secretary

Nominating Committee.

Dr. W. H. Breuer moved the adoption of the report. The motion was severally seconded and carried.

Dr. I. H. Lockwood, Kansas City, moved that we hear from Dr. Jabez N. Jackson, President of the American Medical Association, while we are waiting for Dr. Cotton. (Applause.)

Address of Dr. Jabez N. Jackson

DR. JACKSON: It seems like old times to appear before this august body representing the Missouri State Medical Association. If there is anything I am more interested in, in principle, than anything else I know of, it is the State of Missouri. I want to congratulate you on electing for your President one who represents the great mass of his class, the medical practitioner.

I have tried, as President of the American Medical Association, to feel that I represented the great mass of men who are doctors practicing medicine, trying to make a living, saving the people, being of benefit to suffering humanity, and not to the professors or the heads of any medical schools, or the heads of any clinics outside of the general practitioners of medicine.

I am glad we have a good program here this year, and I want to say at this time that the remark is made that this is the best meeting that has been held in the history of the Missouri State Medical Association. I want to say that probably one of the reasons for it is because your Committee on Program secured some distinguished guests and made a program that is worth while coming for.

I should like to make one suggestion for the future. It has been my privilege in the past year to have attended a considerable number of medical societies all over the country, some in the Eastern states, some in the Western states, and some in the Southern states. I find that, after all, doctors are just about the same wherever you find them. They are a pretty good bunch of men who are interested in their profession and interested in the science of medicine. If you want to get them out to a state meeting you have to give them a program of scientific character sufficient to be worthy of their efforts or they don't go, and I have found where such programs prevail they have the largest attendance. For instance, I had the privilege of attending the meeting of the Ohio State Society last year and there were something over 2000 men registered at that meeting, about half the profession of the state. When I addressed them it was in a large assembly hall packed to the doors. The same thing was true of a meeting in Pennsylvania last fall, and the strength of the program they got out was remarkable.

I believe the continuity of success of our Association is going to be more and more in making strong programs, and I want to say this: Unfortunately there are some men in every state, I presume, who always have a little objection because they believe there are some other men in the state who are running things, and they usually satisfy their objections by saying that the state is run by a bunch of politicians.

I have never known of any organization in the world that wasn't run by somebody who was thinking and interested in the welfare of the society, and I believe we have just as unselfish and unbiased men in the House of Delegates of Missouri as there are anywhere else.

On the other hand, the fact is that some of our so-called scientific men, quite competent to contribute to the excellence of this program, have gotten out of touch. I think it is mostly their fault but I want to strongly urge and advise that in the coming year we try, as far as possible, to reconcile those men, get them to take an active, participating interest.

We have in St. Louis universities which are a credit to the State of Missouri and a credit to any state, but unfortunately there are a considerable number of the representatives of those universities who are not honoring this Association with their presence or contributing actively to the program.

There are a lot of things I might talk about. You know Wilson once said, when he was called upon to make a speech, "How much time will I have?"

"What difference does that make?"

"It makes a lot of difference. If I have to make a minute speech I want about three months' preparation. If I am going to speak for an hour I won't need any preparation."

That is the way I am. (Applause.)

The audience arose and applauded as Dr. Love and Dr. Shutt escorted President-Elect Cotton to the platform.

PRESIDENT RIDGE: I wish to present to you Dr. Cotton, our President-Elect. (Applause.)

Address of President-Elect Cotton

PRESIDENT-ELECT COTTON: My friends said they were going to run for the presidency this time a "ridge runner," or more commonly called a "hill billy," and I said, "I don't know what the qualifications are, but I think I might qualify as a ridge runner." So I take it that is the proper name.

I feel that in this very great honor conferred on me it is not so much an honor to me personally as it is a recognition of the south section of Missouri. So far as I know it has never been so honored before by this Association. We of the Big Springs country of the Missouri Ozarks have

never had a President from that territory, with the single exception of Dr. Shuttet from West Plains who was really on the west side of our territory, but the extreme south or southeast portion of Missouri has never been honored by the office of President. So I take it really as a recognition of a group of medical men down there who are loyal to this Association, who are loyal to the principles of medicine, and as such we are grateful as a section, as well as for myself personally.

In this connection, we would say for that section of Missouri that it possibly is not the wealthiest part of Missouri. I wouldn't care to say that it is the most beautiful part of Missouri, but I will say that it is the most beautiful part of Missouri I have seen. Take the eastern slope of the Missouri Ozarks where everything is green, we think that is a very beautiful country.

I want, at this time, to invite all of you to come down and visit the Big Springs country of the Missouri Ozarks. I want to tell you that you will first come in view of the Gasconade River, a little further on the Big Piney River and the Little Piney River, Current River, Black River and St. Francois River, and along with that you will see the Big Springs which have given that country the name of the Big Springs country.

The Game and Fish Commissioner came down there and wanted to rename it and call it the Wonder River. We didn't want to call it a river because it is really a big spring. I think I will not be accused of telling a fish story when I say it is probably the second largest spring, not in this state but in this country. It takes a well grown horse to ford it, and the spring branch is ninety feet wide.

So we invite you to come down to that country, and we believe when you have seen that country down there you will agree with Harold Bell Wright when he says, "When God finished creation and looked on the results of his handiwork He called it good and very good. He was unquestionably looking at the Ozarks."

It isn't enough to say "I thank you" for this honor. That is easy, but in order to show my appreciation I will have to say "I thank you" in some other way. That some other way is by service. To my mind service is the biggest thing in the world and the standard of service was set by the Saviour of men when His disciples were gathered around Him and He said, "Whosoever will be great among you, let him be your minister; and whosoever will be chief among you let him be your servant." By your vote you have in a sense made me first of all, and I hope from the bottom of my heart to be of some service.

I think Christ's teaching is again demonstrated in the fact that He was a medical man. Take the narrated works of Christ, His miracles, and we find that out of forty-five narrated miracles thirty-six of them, or eighty per cent., were miracles that had to do with the restoration of physical health or restoration from death. So it seems to me that Christ's work was in line with the medical profession, or the medical profession's work was in line with Christ's work, the Saviour of men on this earth.

When I take a retrospect of the workings of this Society since I have been connected with it, which doesn't go back so far, and view the progress that has been made, I can see working yet in my mind's eye such men as McAlester, Lutz, Welch, Moore, Allee, and a host of others that I might mention. Those men were builders back yonder and they have built well. They have laid the foundation which has grown from a Society of 300 or 400 loosely bound together, to a Society of 3300 competent, going medical men. So I say their building has been constructive. Those men laid the foundation on which has been built not only this increase in numbers and efficiency in work, but it has laid the foundation of progress along a number of lines some of which I wish to call attention to.

In reading a report of the teachers of the state the other day, many of whom have formed a code of ethics, in one of the Eastern states they had in their code this sentiment: "Professional dishonor consists in the selfish betrayal of the ideal of service for the sake of personal ambition." "I think it is a good thing for the doctors, teachers, or anybody else to express such a sentiment that personal ambition should not overthrow the work of service of this Association, and I think that would be a good motto for me.

I musn't take much of your time. You have already been well entertained today, but I just want to mention one thing that has been accomplished. The postgraduate work established by this Association is one of the greatest things I have known in my medical day, that is, where this postgraduate work is taken out to the rural county societies. It is a wonderful thing. It is a wonderful help. It is one of the lines of progress of which this Association can well feel proud.

Another thing I wish to mention is that THE JOURNAL, which is now in its twenty-fifth year, has been a good journal all the years and has taken its place along with the leading journals of its kind, the medical journals of this country. It is going to the 3300 doctors of our membership and to others. The commendable thing about it is that it is more than self-sustaining. It is really paying a dividend at this time. We think that is worthy of mention.

Still another thing: It has never been my lot to have to be a defendant in a damage suit for malpractice but other better medical men than I and more worthy men than I have been. We don't know when any of you doctors within the sound of my voice may have a damage suit lodged against you and you will have to defend it. If I had nothing else at all as a remuneration for the time, money and trouble spent on my membership in this Association but the fact that if I should be so caught I have the moral support of this organization of 3300 medical men to come to my rescue, I would feel I was well paid for that time and that trouble.

When it comes my time to be at the wheel and steer the machine of this organization I hope to be at least able to keep it on the highway, and if I can't use the accelerator I will try to stay off the brake, and of course I look to this Association for the motive power.

In closing I want to give you a thought of which I can't just quote the verse.

I have found at every turning of the road
Willing hands that assist me with my load.
And since I have no way to make amends
God make me worthy of my friends.

I thank you. (Applause.)

PRESIDENT RIDGE: Dr. Cotton, have you a report to present?

Dr. Cotton presented the report of the Committee on Publication as follows:

REPORT OF THE PUBLICATION COMMITTEE

Twelve issues of THE JOURNAL have appeared during the year and with few exceptions the issue was in the hands of the members on or before the first of the month. We are now in Volume 25, the twenty-fifth year of the publication of THE JOURNAL.

During 1927 THE JOURNAL contained 85 original articles, 57 editorials, 89 reports of county societies, and the reports of other societies such as the Washington University Medical School, Southwest Missouri Medical Society and the Annual Proceedings of our 1927 meeting. The Women's Auxiliary has sent in 17 reports which were published.

Volume 24, January, 1927, to December, 1927, contained a total of 594 reading pages, an average of 49½ pages to each issue, and 470 advertising pages, an average of 39 advertising pages to each issue, a little more than 88 pages in each issue.

THE JOURNAL received a total of 142 books for review, representing \$517 in price. 52 books were sent to the St. Louis Medical Society Library, 44 to Jackson County Medical Society Library and 10 to the library of the Medical School of the State University, 65 of these being reviewed during the year. Reviews of 82 books were published in THE JOURNAL.

For illustrations in THE JOURNAL the total cost was \$573.50.

THE JOURNAL earned in advertising an income of \$9,145.29. The expense of printing and mailing THE JOURNAL, including cost of illustrations, was \$7,471.13, leaving a net profit of \$1,674.14

T. W. COTTON, Chairman
M. A. BLISS,
C. O. DONALDSON.

Dr. Joseph Grindon, St. Louis, moved the report be adopted. The motion was regularly seconded and carried.

On motion the House of Delegates adjourned *sine die*.

MINUTES OF THE COUNCIL

Missouri Methodist Church

Monday Afternoon, May 14, 1928

The first meeting of the Council of the Missouri State Medical Association, held in the Missouri Methodist Church, Columbia, Monday, May 14, 1928, convened at one twenty-five p. m., Dr. A. R. McComas, Sturgeon, Chairman of the Council, presiding.

Secretary Goodwin called the roll and twenty-one councilors reported as follows:

- 1st District, O. C. Gebhart, Oregon.
- 2nd District, H. S. Conrad, St. Joseph.
- 5th District, J. R. Bridges, Kahoka.
- 6th District, J. S. Gashwiler, Novinger.
- 8th District, B. K. Stumberg, St. Charles.
- 9th District, A. R. McComas, Sturgeon.

- 10th District, D. A. Barnhart, Huntsville.
- 11th District, J. H. Timberman, Chillicothe.
- 12th District, Spence Redman, Platte City.
- 13th District, Geo. E. Bellows, Kansas City.
- 14th District, C. T. Ryland, Lexington.
- 15th District, L. J. Schofield, Warrensburg.
- 16th District, T. B. M. Craig, Nevada.
- 17th District, Guy Titsworth, Sedalia.
- 18th District, W. L. Allee, Eldon.
- 19th District, M. R. Aldridge, Jefferson City.
- 20th District, W. C. Gayler, St. Louis.
- 26th District, W. H. Breuer, St. James.
- 27th District, J. C. B. Davis, Willow Springs.
- 28th District, W. M. West, Monett.
- 29th District, R. M. James, Joplin.

Dr. O. C. Gebhart, Oregon, moved that the minutes of the 1927 meeting be adopted as published in the official JOURNAL. Seconded and carried.

Secretary Goodwin read the report of the Executive Committee. (Page 340.)

Dr. T. B. M. Craig, Nevada, moved the adoption of the report as read. Seconded by Dr. L. J. Schofield, Warrensburg, and carried.

CHAIRMAN McCOMAS: We will now consider the reports referred from the House of Delegates.

SECRETARY GOODWIN: The President's message contains two points that require attention: one, urging the establishment of four years of medical instruction at the state university; the other, teaching ethics in medical schools.

Dr. J. C. B. DAVIS, Willow Springs: I think those points are well taken and I favor them very much. I move that they be adopted. Seconded by Dr. W. M. West, Monett, and carried.

SECRETARY GOODWIN: The report of the Secretary contains only one item that might call for discussion, that is in regard to county medical societies already organized and holding charters consolidating with another society which is also organized and holds a charter. Do the counties entering this combination lose their right to a delegate?

The question was discussed by the Chairman, Drs. Breuer, Gebhart, Davis, Schofield and Hawkins.

Dr. J. S. Gashwiler, Novinger, moved that the several counties desiring to hyphenate for scientific purposes may do so without surrendering their charters and each shall maintain its separate organization. Seconded by Dr. W. L. Allee, Eldon.

Discussion by the Chairman, Drs. Breuer, Bridges, Titsworth, Gebhart, Redman, Hawkins, Conrad, Schofield, West and Davis.

Dr. W. H. BREUER, St. James: I move to amend the motion by striking out the words "for scientific purposes," and "without surrendering their charters." Seconded.

The amendment was put to a vote and lost.

The original motion was put to a vote and lost.

Dr. W. M. West, Monett, moved that the question be referred to the Committee on Constitution and By-Laws for report at the next session. Seconded by Dr. W. H. Breuer, St. James, and carried.

CHAIRMAN McCOMAS: The next order of business is the Treasurer's report, referred by the House of Delegates.

Dr. J. S. Gashwiler, Novinger, moved to accept the report and refer it to the auditing committee. Seconded by Dr. L. J. Schofield, Warrensburg, and carried.

CHAIRMAN McCOMAS: The Committee on Defense asks that \$1000 be appropriated to their fund. What is your pleasure?

Dr. T. B. M. Craig, Nevada, moved that \$1000 be transferred from the General Fund to the Defense Fund. Seconded by Dr. J. C. B. Davis, Willow Springs, and carried.

CHAIRMAN MCCOMAS: The Committee on Public Policy recommends that this body approve the change in the Constitution of the State of Missouri allowing legislators \$1000 for a regular session and \$1500 for the revision session, instead of \$5 per day.

DR. J. R. BRIDGES, Kahoka: I move we approve that recommendation. Seconded by Dr. J. S. Gashwiler, Novinger, and carried.

DR. W. H. BREUER, St. James: There was a request for the appropriation of \$500 to the Association for Amendment No. 1, of which the President of the Missouri State Medical Association is a member. The State Teachers' Association, composed of 23,000 members, gave \$2,500, and I feel that as we are only 3000 strong as a medical profession we shouldn't be called upon to give the amount asked for. I move that the Council appropriate \$250 to this organization for propaganda and education in pushing this amendment.

DR. J. S. GASHWILER, Novinger, seconded the motion which carried.

CHAIRMAN MCCOMAS: The Committee on Public Policy submits correspondence from the St. Louis Medical Society to consider the following question:

The St. Louis Medical Society proposes that a bill be introduced in the General Assembly to provide for the election of a physician to the office of the coroner, or at least have an examining physician attached to the office of the coroner. The office of the coroner is a constitutional office but nothing is said about what kind of man shall be coroner.

DR. G. W. HAWKINS, Salisbury, moved to refer the question back to the Committee on Public Policy. Seconded and carried.

CHAIRMAN MCCOMAS: We will now hear the reports of the councilors.

DR. O. C. GEBHART, Oregon: Things are not running as smoothly as they did last year. It has been pretty hard to keep interest up. We may have to do a little hyphenating, but we will keep plugging away to see what we can accomplish.

DR. H. S. CONRAD, St. Joseph: Buchanan County is always active. There is nothing of importance, however, to report. We have had three threatened lawsuits but none of them has been filed. I can't tell how they are going to come out but as far as the organization is concerned it is well cared for and everything is fine.

DR. J. S. GASHWILER, Novinger: I have nothing to report, Mr. Chairman. We are getting along peacefully.

DR. B. K. STUMBERG, St. Charles: I wish to report that one man in St. Louis County was charged with unprofessional conduct and tried. The county found him guilty and reprimanded him.

I have attempted to organize Lincoln County and they are not easy to organize. There are a sufficient number of doctors to organize a society but they don't seem to be interested. They should go in with Pike County, or with St. Charles County which has been a continuous organization for about forty-five years.

CHAIRMAN MCCOMAS: The Ninth is my district. There has been very little change in conditions. One county has never been organized for the reason that some of the towns are on the north and some on the south side of the county and it seems impossible to organize. Audrain, Boone and Callaway meet regularly and have programs. Montgomery meets occasionally, as does Howard. I would say there is practically no change in the condition of the district in the last several years.

DR. J. H. TIMBERMAN, Chillicothe: Up until a year ago we had been having no meetings. We have twenty members, seventeen paid up, and have had six meetings this year. They are active. Chariton County has nineteen and not a meeting. Livingston has nineteen members, two paid up, and has had six meetings. Carroll County has twelve members, seven paid up, and no meetings.

DR. SPENCE REDMAN, Platte City: The conditions in the Twelfth District are improving. All the counties in the district are holding meetings, some more regularly and more efficiently than others but all are doing work that is commendable.

DR. T. B. M. CRAIG, Nevada: Vernon and Bates Counties have been doing very nice work and Bates County has been having very nice meetings. We have been unable to do anything in Dade County.

DR. GUY TITSWORTH, Sedalia: The Seventeenth District

has done very good work this year. They have had very good meetings, but there is nothing special to report.

DR. W. L. ALLEE, Eldon: There have been no changes in our district. We are still organized and meeting about once a month.

DR. M. R. ALDRIDGE, Jefferson City: Conditions are just about as before, I think. I want to state with a great deal of pleasure that one suit has been filed which was dismissed. That suit happened to affect me, so I feel very greatly honored.

DR. W. C. GAYLER, St. Louis: There is only good news from St. Louis. Our new president has brought a lot of factions together and created a lot of good feeling, and things seem to be going very nicely.

DR. W. H. BREUER, St. James: Our counties are all organized and working. We have had some very good county society meetings and one district meeting of all the societies. The only way I find you can get the boys out to the district meeting is to give them something to eat. We went over to Waynesville, had a nice luncheon and everyone was there.

DR. J. C. B. DAVIS, Willow Springs: Renewed interest in the Twenty-Seventh District is about all we have to report.

DR. W. M. WEST, Monett: The Twenty-Eighth District has been pretty active. We had a nice meeting at Springfield and Dr. Nifong was down. Lawrence-Stone had a nice meeting the other day at Mt. Vernon. They had quite a good attendance although I was unable to be there. There seems to be nothing but harmony.

DR. R. M. JAMES, Joplin: McDonald County is not organized because there are only about five doctors there; the only active men there attend the society meetings in Joplin where we have an average attendance of about seventy-five each Tuesday night. The reason for that is that we have been inviting doctors from over the state furnished by the State Association and by Kansas City. We invite those from the southeast and the northeast and we have had as high as 110 in attendance the last month. We have had some very fine programs.

Newton County has seventeen doctors and fourteen of them belong to the society and meet every month. We have enjoyed this last winter more, I think, than any year we have had since I have been a member of the Association. I am very glad to report that condition.

CHAIRMAN MCCOMAS: The Secretary will please read the budget as made up last December for the different expenses.

Secretary Goodwin read the budget, as follows:

Budget for 1928

Salaries	\$8,000.00
Printing Journal	8,000.00
Legislation	3,000.00
Defense	600.00
Postage	500.00
Speakers' Bureau (including postgraduate extension course)	2,500.00
Printing and Stationery	600.00
Traveling Expense of President	500.00
Traveling Expense of Secretary	1,000.00
Telegrams and Telephone	800.00
Rent of Offices	1,380.00
Executive Committee Meetings	300.00
Contingent Fund	500.00
Total	\$27,680.00

DR. W. H. BREUER, St. James: I move you that this budget be made a part of the report of the Council to the House of Delegates. Seconded and carried.

CHAIRMAN MCCOMAS: I will appoint the following auditing committee to bring in a report Wednesday: Drs. J. C. B. Davis, Willow Springs, Chairman; J. S. Gashwiler, Novinger; L. J. Schofield, Warrensburg.

On motion the meeting adjourned at two-fifty o'clock.

Wednesday Afternoon, May 16, 1928

The second meeting of the Council convened at five-ten o'clock, Dr. W. H. Breuer, St. James, presiding.

DR. BREUER: Gentlemen, I am very sorry to tell you that Dr. McComas is not so well. The gland in his neck and another one down below is inflamed and hurting him. It will be in order to elect a vice chairman to serve.

DR. T. B. M. CRAIG, Nevada: I nominate Dr. Breuer. The motion was regularly seconded.

The motion was put to a vote by Secretary Goodwin and carried.

CHAIRMAN BREUER: We will dispense with the reading of the minutes and the first order of business will be the election of the Chairman of the Council for the ensuing year.

DR. H. S. CONRAD, St. Joseph: I nominate Dr. McComas. The motion was regularly seconded and carried.

CHAIRMAN BREUER: A contingency came up this year that hasn't existed at any time since the Council has been in existence, and that is that our Chairman has been sick and unable to perform the functions of his office. I think the Council should elect a vice chairman to serve where the Chairman is absent or incapacitated.

DR. W. L. ALLEE, Eldon: I nominate Dr. Breuer to serve as vice chairman for the ensuing year.

DR. W. M. WEST, Monett: I second the nomination.

Secretary Goodwin put the motion to a vote and it carried.

CHAIRMAN BREUER: I want to say that Dr. McComas feels this very keenly. When he told me he said, "Bill, tell the boys I am with them in spirit." I never saw his feelings in his eyes as he showed them this afternoon because he feels this very keenly. I will go out there this evening and tell him that you reelected him Chairman of this Council. He was elected one of the delegates to the American Medical Association and I know it will help him in getting well.

The next order of business will be the election of a Secretary of the Association and Editor of THE JOURNAL. Whom will you have for your Secretary-Editor?

DR. D. A. BARNHART, Huntsville: Mr. Chairman, I nominate Dr. Goodwin.

DR. T. B. M. CRAIG, Nevada: I second the nomination.

The motion was put to a vote and carried.

CHAIRMAN BREUER: Whom will you have for your treasurer for the ensuing year?

DR. T. B. M. CRAIG, Nevada: I nominate Dr. Hawkins. The motion was regularly seconded, was put to a vote and carried.

CHAIRMAN BREUER: There is one thing to come before the body. As you all know, the House of Delegates at its meeting on Monday passed a resolution requesting the Council to increase the salary of the Secretary-Editor from \$4800 to \$6000 a year. That is before you for your consideration.

DR. T. B. M. CRAIG, Nevada: Mr. Chairman, I move the adoption of that resolution.

DR. R. M. JAMES, Joplin: I second the motion.

The motion was put to a vote and carried.

DR. J. C. B. DAVIS, Willow Springs, presented the report of the auditing committee, as follows:

Report of the Auditing Committee

We, the Auditing Committee, have examined the books of the Secretary and of the Treasurer and find them correct.

J. C. B. DAVIS, Chairman
J. S. GASHWILER,
L. J. SCHOFIELD.

On motion the report of the auditing committee was adopted.

DR. W. L. ALLEE, Eldon: I move that Dr. McComas, Dr. Breuer and Dr. Gayler constitute the Executive Committee for the ensuing year.

DR. G. W. HAWKINS, Salisbury: I second the motion.

The motion was put to a vote and carried.

CHAIRMAN BREUER: I don't know of any other business to come before the Council at this time.

On motion by Dr. W. L. Allee, Eldon, seconded by Dr. T. B. M. Craig, Nevada, the Council adjourned *sine die*.

MINUTES OF THE GENERAL MEETING

Missouri Methodist Church, Columbia
Tuesday, May 15, 1928—Morning Session

The first scientific session of the 71st Annual Meeting of the Missouri State Medical Association, convened at Columbia, May 15, 1928, and was called to order at 8:50 a. m. by the President, Dr. Frank G. Nifong, Columbia.

Dr. G. V. Stryker, St. Louis, read a paper on "Radium Treatment of Angioma in Infants," which was discussed by Dr. T. W. Cotton, Van Buren; Dr. Stryker closing the discussion.

Dr. D. S. Booth, St. Louis, read a paper on "Worry: Its Cause and Prevention," which was discussed by Dr. G. Wilse Robinson, Kansas City, Dr. C. H. Neilson, St. Louis, Dr. H. S. Major, Kansas City, Dr. Hudson Talbott, St. Louis, and Dr. J. W. Love, Springfield. The discussion was closed by Dr. Booth.

A paper on "Focal Infection: Some Remarks on Operative Treatment," was read by Dr. V. V. Wood, St. Louis, and discussed by Dr. D. D. Stofer, Kansas City. Dr. Wood closed the discussion.

Dr. Carl H. Greene, Rochester, Minnesota, read a paper on "Clinical Considerations in the Diagnosis and Treatment of Jaundice and Ascites," which was discussed by Dr. L. H. Behrens, St. Louis, Dr. D. D. Stofer, Kansas City; Dr. Greene closing.

The Symposium on Skin Diseases was scheduled to open this session but the absence of every member appointed to give an address on this important topic necessitated the abandonment of the symposium. Dr. Engman wired that he was ill and stated that this prevented Dr. Mook from reading his paper. The others on the symposium failed to account for their absence. Not to disappoint the members entirely, President Nifong called upon Dr. Joseph Grindon, St. Louis, to speak on the subject which he did.

Tuesday, May 15, 1928—Afternoon Session

The second scientific session of the Annual Meeting of the Missouri State Medical Association, convened at 1:35 p. m., Tuesday, May 15, 1928, President-Elect Frank I. Ridgic, Kansas City, presiding.

The following papers were read in the Symposium on Arthritides:

"Infections as a Factor in Arthritis," by Dr. Russell L. Haden, Kansas City. "Arthritides of Luetic Origin," by Dr. C. B. Francisco, Kansas City. "Arthritides Due to Nutritional Disturbances," by Dr. J. E. Welker, Kansas City. "X-Ray," by Dr. Sherwood Moore, St. Louis. "Physical Means in the Treatment of Arthritis," by Dr. F. H. Ewerhardt, St. Louis.

The symposium was discussed by Dr. I. H. Lockwood, Kansas City, Dr. R. M. Schaffler, Kansas City, and Dr. Joseph Grindon, St. Louis.

Dr. J. Hoy Sanford, St. Louis, read a paper on "Progress of Prostatic Surgery," which was discussed by Dr. A. W. McAlester, Kansas City, Dr. N. F. Ockerblad, Kansas City, and Dr. John W. Thompson, St. Louis.

A paper entitled "The Significance of Hematuria and Pyuria," illustrated with lantern slides, was read by Dr. O. J. Wilhelmi, St. Louis, and discussed by Dr. N. F. Ockerblad, Kansas City.

Dr. Ralph W. Holbrook, Kansas City, read a paper on "The Medical Stomach."

Dr. Walter F. Holbrook, Kansas City, read a paper on "The Surgical Stomach."

These papers were discussed by Dr. E. Lee Miller, Kansas City, Dr. J. J. Gaines, Excelsior Springs, Dr. I. H. Lockwood, Kansas City, and Dr. Frank G. Nifong, Columbia.

Wednesday, May 16, 1928—Morning Session

The third scientific session of the Seventy-First Annual Meeting of the Missouri State Medical Association convened at 8:45 a. m., Wednesday, May 16, 1928, President Nifong presiding.

A Symposium on Headache was given as follows: "Headaches of Ocular Origin," by Dr. Lawrence Post, St. Louis. "Nasal Headaches," by Dr. Arthur W. Proetz, St. Louis. "Neurological Aspects," by Dr. B. L. Elliott, Kansas City.

This symposium was discussed by Dr. H. L. Kerr, Crane, Dr. C. H. Neilson, St. Louis, Dr. J. H. Timberman, Chillicothe, Dr. F. M. Pottenger, Monrovia, California, Dr. W. A. Myers, Kansas City, Dr. P. F. Titterington, St. Louis, Dr. T. J. Beattie, Kansas City, Dr. H. E. Pinkerton, Jefferson City, and closed by Drs. Post and Proetz.

A paper on "A New Method of Examination of Patients Affected With Intestinal Stasis: With Suggestions Relative to Treatment," was read by Dr. Frank Smithies, Chicago, Illinois. This paper was illustrated with lantern slides.

Dr. F. M. Pottenger, Monrovia, California, read a paper on "The Early Diagnosis of Tuberculosis."

Wednesday, May 16, 1928—Afternoon Session

The fourth session of the Annual Meeting of the Missouri State Medical Association convened at 1:30 p. m., Wednesday, May 16, 1928, President Nifong presiding.

Dr. Quitman U. Newell, St. Louis, read a paper entitled, "Significance of Pain in the Lower Abdomen in Gynecological Conditions," which was discussed by Dr. W. C. Gayler, St. Louis, Dr. H. J. Scherck, St. Louis, Dr. Hudson Talbott, St. Louis; Dr. Newell closing.

A paper on "Practical Points in the Feeding and Care of Infants," was read by Dr. McKim Marriott, St. Louis. This was discussed by Dr. F. C. Neff, Kansas City, and closed by Dr. Marriott.

Dr. A. E. Hertzler, Kansas City, presented a paper on "Goiter," which was discussed by Dr. Kerwin W. Kinard, Kansas City, Dr. Caryl Potter, St. Joseph, Dr. Willard Bartlett, St. Louis, Dr. C. H. Neilson, St. Louis, and Dr. E. L. Hume, Bourbon. The discussion was closed by Dr. Hertzler.

A paper entitled "Eye Injuries and the Workmen's Compensation," by Dr. Emmett P. North, St. Louis, and Dr. Vincent L. Jones, St. Louis, was read by Dr. North. The paper was discussed by Dr. W. L. Small, Kansas City.

Wednesday, May 16, 1928—Evening Session

The general session Wednesday evening, held in the Missouri University Auditorium, convened at 7:45 p. m., Dr. M. Pinson Neal, Columbia, presiding.

"Medical Education" was the subject of the President's Address delivered by Dr. Frank G. Nifong, Columbia.

Dr. F. M. Pottenger, Monrovia, California, gave an address on "The Public's Estimate of the Doctor (What It Is, Why It Is, and What It Should Be)."

The President-Elect, Dr. Frank I. Ridge, Kansas City, delivered an address on "Educating the Rural Public to Appreciate the Country Doctor."

Dr. Frank Smithies, Chicago, Illinois, spoke on "What Is Meant by 'Dyspepsia.'"

Thursday, May 17, 1928—Morning Session

The scientific session on Thursday morning convened at 8:45 a. m., President Ridge presiding.

The following papers were read in the Symposium on Backache:

"Orthopedic Aspects of Backache," by Dr. Frank D. Dickson, Kansas City; "Relationship of the Genito-Urinary Organs to Backache," by Dr. John R. Caulk, St. Louis; "Backache From the Gynecological Standpoint," by Dr. H. S. Crossen, St. Louis; "X-Ray Examination of the Lumbosacral Region With Reference to Low Back Pain," by Dr. P. F. Cole, Springfield.

The symposium was discussed by Dr. Logan Clendening, Kansas City, Dr. R. M. Schaffler, Kansas City, Dr. G. Wilse Robinson, Kansas City, Dr. W. R. Rainey, St. Louis, Dr. Buford G. Hamilton, Kansas City, Dr. M. Pinson Neal, Columbia, Dr. F. A. Jostes, Columbia, Dr. H. L. Jones, Kansas City, Dr. J. R. Vaughan, St. Louis, and Dr. Frank G. Nifong, Columbia. The discussion was closed by Drs. Dickson, Caulk and Crossen.

A paper entitled "Uterine Hemorrhage," was read by Dr. Thomas S. Cullen, Baltimore, Maryland.

Dr. J. C. Bloodgood, Baltimore, Maryland, gave an address on "What Every Doctor Should Know About Cancer."

Thursday, May 17, 1928—Afternoon Session

The scientific session Thursday afternoon convened at 1:30 p. m., President Ridge presiding.

Dr. Roland Hill, St. Louis, read a paper on "Intussusception," which was discussed by Dr. Thomas S. Cullen, Baltimore, Maryland, Dr. Frank G. Nifong, Columbia, Dr. E. E. Mansur, Jefferson City, Dr. W. A. Myers, Kansas City, and Dr. H. J. Wise, Sparta. Dr. Hill closed the discussion.

Dr. L. G. McCutchen, St. Louis, presented a paper on "A New X-Ray Device: Uses and Results," and demonstrated operation of the device. There was no discussion.

A paper on "The Late Physical Effects and Symptomatology of Thrombophlebitis," was read by Dr. Robert Mueller, St. Louis.

Dr. Elliott P. Joslin, Boston, Massachusetts, read a paper on "The Dangers of the Diabetic."

Dr. F. C. Narr, Kansas City, read a paper on "Simple Tests in the Study of Kidney Diseases," which was discussed by Dr. D. R. Black, Kansas City.

Dr. Evan S. Connell, Kansas City, presented a paper on "Observations on the Nasal Sinus Problem," which was discussed by Dr. M. B. Simpson, Kansas City. This paper was illustrated with lantern slides.

A paper on "Pericolic Adhesions as a Factor in Non-Relief of Symptoms Following Chronic Appendicitis," was read by Dr. C. H. Shutt, St. Louis.

Dr. J. R. McVay, Kansas City, read a paper on "Diverticulum of the Cecum; Case Report With Operative Differential Diagnosis."

Dr. W. G. Patton, St. Louis, read a paper on "Tumors of the Larynx," which was discussed by Dr. O. Jason Dixon, Kansas City.

Dr. E. R. Deweese, Kansas City, presented a paper on "X-Ray Studies of Chronic Pulmonary Infections."

Thursday, May 17, 1928—Evening Session

The Public Meeting, held Thursday night in the Missouri University Auditorium, convened at 8:15 p. m., Dr. M. P. Ravenel, Columbia, presiding. The following addresses were presented:

"Diabetic Doctors," by Dr. Elliott P. Joslin, Bos-

ton, Massachusetts. "Bleeding: A Danger Signal," by Dr. Thomas S. Cullen, Baltimore, Maryland. "What Every Man, Woman and Child Should Know About Cancer," by Dr. J. C. Bloodgood, Baltimore, Maryland. "How to Avoid Contagious Diseases," by Dr. Frank C. Neff, Kansas City.

Friday, May 18, 1928

THE CLINICAL MEETING

Clinics were held Friday morning and afternoon at the University Hospital. The following doctors gave practical demonstrations and discussions:

Dr. J. C. Bloodgood and Dr. Thomas S. Cullen, Baltimore, Maryland, on "Cancer Problems." Dr. Elliott P. Joslin, Boston, Massachusetts, on "Practical Management of the Diabetic." Dr. Frank C. Neff, Kansas City, on "Cutaneous Tests for Communicable Diseases."

TWENTIETH ANNUAL MEETING OF MISSOURI SOCIETY OF MEDICAL SECRETARIES

Tuesday, May 15, 1928—Luncheon Session

The Twentieth Annual Meeting of the Missouri Society of Medical Secretaries met at a luncheon held in the Missouri Methodist Church, Tuesday, May 15, 1928, at 12:00 noon. Dr. W. L. Veirs, Pleasant Hill, President, presiding. Forty-seven secretaries and guests were present.

Dr. Veirs gave the Address of Welcome which was followed by an address by Dr. C. H. Neilson, President of the St. Louis Medical Society.

Dr. Kerwin W. Kinard, Kansas City, President of the Jackson County Medical Society, also addressed the meeting.

The following participated in the round-table talk: Dr. E. J. Goodwin, St. Louis, Dr. Frank G. Nifong, Columbia, and Dr. J. T. Hornback, Nevada. Officers for the ensuing year were elected as follows:

President, C. H. Dixon, Moberly; Vice President, Roland S. Kieffer, St. Louis; Secretary, J. T. Hornback, Nevada.

REPORT OF THE COMMITTEE ON PUBLIC POLICY

Radio. One of the most important matters of interest coming before this committee was the damaging effects upon public health education of broadcasting over the radio by quacks, patent medicine manufacturers, and various commercial groups seeking to make financial profit for themselves and advance their own selfish interest under the guise of "public health lectures."

The matter has been taken up first, with various broadcasters direct, second, through the Federal Radio Commission at Washington, and third, with the United States Congress in session in Washington.

We have found that the various broadcasting firms are quite sensitive to criticism by the organized medical profession. Where not bound by contract they have mostly acceded to our proposals to keep the field of public health above exploitation. However, their expense is great in broadcasting a program and there is strong commercial temptation in the offer of entertainers and a cash bonus for an apparently harmless appeal over the radio from the owner of a remedy for sale, a "sanitarium" or "school" to be exploited. Many radio franchises are upon a firm financial footing and a very high plane and others are upon a "shoe-string." The latter are prone to listen to any one with cash. We

must insist that commercial exploitation be kept away from genuine public health education. The influence of the profession is most valuable here.

Congress flatly refuses to pass special rules in regard to broadcasting on public health topics. Your committee urged that all broadcasters of matter claiming to be health talks or conveying information on public health be required to be inspected and approved by the legal health authorities of the state in which the broadcaster is located. This was declared impossible. The whole radio subject is new and rules must be developed from needs as they appear.

Bills in Congress affecting the medical profession have been reported by the Secretary.

Nursing in Missouri. The Missouri State Nursing Association desires to extend the work of nursing. They recognize that the tendency of new graduates is to gather about metropolitan hospitals just as the newly graduated doctor tends to remain in cities. They recognize the greater need for nursing in homes. With that end in view they held a meeting at Jefferson City, March 24, 1928, and invited members of this committee and of the State Association to be present. Our president and our secretary responded, as well as this committee and the heads of all the important nursing organizations in the state.

After considering the matter from all angles and reading replies to several hundred letters it was decided to recommend the visiting nurse plan (which has done so much for cities) to be worked out as an extension of nursing service to the rural counties of Missouri. The cost of nursing in the country at present is \$7 a day plus board and transportation to and from the nurse's home. A two weeks illness costs from about \$100 to \$125 for nursing alone. The nurses' fees must be cash and are far more than the doctors' fees in most cases of rural sickness. A very large amount of testimony before this committee tended to show a feeling of hopeless antipathy to the trained nurse. This is probably because in cases of acute illness the doctor is called upon to forego his fees altogether in order that the nurse which he advises is desirable may be called. Then, too, the question of housing in many homes forbids employment of a nurse or complicates the situation. As a result, there is little trained nursing in the homes of the industrial population in either city or country.

The visiting nurse at a price by the hour solves the question in the metropolitan centers and is proposed for the towns and country. So the State Nurses' Association wishes to try this means of furnishing competent help to the physicians of Missouri at a low cost. The nurse secures a boarding place. She has transportation. She does not come from the state board of health, nor from the Red Cross nor from any national organization. She does not report to anybody. She simply moves into a community and asks for work. She will do nursing whenever and wherever she is sent by a doctor. Any physician in good standing sending for her will expect her to charge a set fee of \$1 or \$1.50 for a single hour and fifty cents to seventy-five cents for each succeeding hour. She will then return as often as the doctor tells her to, once a day, once in two days, or once in three or four days. She will give douches, give baths, make beds, cook special food, show a mother how to mix milk for her child, and when she is through with her work she will depart to her next case. The people for whom she works pay her as they pay the doctor. This has been found efficient and has succeeded in city nursing and it has also succeeded in two cases of country nursing.

ing. Several hundred such nurses should find profitable work, thus bringing the trained nurse into every part of rural Missouri.

It is understood that the character of the nurse and her attitude toward her work are essential elements to consider. Also, that she work for the doctors of the county society who shall call her and does not work for lay calls. To this end this Association and the State Nurses' Association must work carefully together. The service must stay under the joint control of organized medicine and nursing.

Quackery at Excelsior Springs. The committee has been called upon to take part in the fight against quackery at Excelsior Springs. We have pointed out to them how the people of Excelsior Springs may help themselves. Beyond that none can go. If the business men and residents of the resort desire to eliminate quackery and exploitation of the sick, the means are at hand. The legislature has given them a law and they are a free, self-governing people. They alone can enforce their local regulations.

Revision of the Statutes by Legislative Committee. The year 1929 is revision year. All of the laws passed during the past ten years, i. e., sessions of 1921-23-25-27, being the Fifty-First General Assembly and its first and second extra sessions; the Fifty-Second, Fifty-Third and Fifty-Fourth General Assemblies, have been considered by committees of the legislature. This is done to recommend the elimination of laws that overlap other laws and annotations of such information as will prepare the material for a new copy of the Revised Statutes of Missouri (designated 1929) which will take the place of the Revised Statutes of 1919. We have had a representative at the various committee meetings looking after any action by the revision committee that might unfavorably affect our legislation now enacted and published. Also watching for any indication of unfavorable suggestions to the committees.

The revision commission was created by the Fifty-Fourth General Assembly and was authorized to assemble and revise all laws in the Revised Statutes of 1919 and subsequent acts of the legislature. The need of such a committee grew out of the many complaints received by the legislature from the bar association and many others, who have need to use the statutes from time to time, who have complained of the unfinished way the work had been done in the past. The legislature appropriated \$50,000 to have this preliminary work done and it is now being carried on at the state capital by attorneys and a clerical force under the supervision of the committee. All the acts that your committee thinks the Association would be interested in are now in the process of being revised, annotated and assembled and will soon be put in the form of bills to be introduced at the next General Assembly with such recommendations as the revision committee may see fit to make. The whole purpose of the committee is to facilitate the work in order that there may be no delay when the next session meets. The committee would be glad to have the Association or others interested, members of the bar association, etc., point out any sections they may think do not harmonize, are ambiguous, obsolete or do not work out to entire satisfaction. The Committee on Public Policy has kept in touch with the Revision Committee constantly since the first of July.

Pay of Members of the Legislature. The proposed Constitutional Amendment No. 1 to be voted on by the people at the election, November 7, 1928, provides the following changes:

First, to change the present per diem of \$5 per day to the sum of \$1,000 for the regular session of seventy days and to the sum of \$1,500 for the revision session of one hundred and twenty days, or longer, held every ten years, payable at the rate of \$7 per day during both the regular and special session. The remainder, if any, is to be payable on the first of the last month of each biennial period. The reason for supporting this amendment is that the present pay was fixed by the Constitutional Convention of 1875 and is wholly inadequate to meet the present day needs. The increased expense per member would be, 70 days at \$5 equals \$350, an increase of \$650; 120 days at \$5 equals \$600, an increase of \$900.

The proposed amendment also provides for the changing of the date of the fiscal year from January 1 to July 1 of each year. The benefits to be derived by this change will be that all departments will have funds during the session of the legislature and all appropriations will begin on July 1 instead of January 1. As the law is now constituted, all unexpended appropriations revert to the state treasury on December 31 and many departments have to carry on without funds until after the adjournment of the legislature.

The above or similar amendments have been submitted to the people in past elections and have always been defeated for lack of interest on the part of the people, civic and professional bodies and organizations. However, at this time there is an appeal being made by disinterested parties to arouse a state wide interest in the amendment with a view of having it carry in the election.

The Association for Amendment No. 1 composed of public spirited citizens with headquarters in St. Louis has invited our cooperation in arousing sentiment for the adoption of the amendment and has requested us to contribute \$500 to the expense of the campaign. We need better paid and better qualified men in the legislation.

New Laws Proposed. (1) Release of physicians from liability of damage suits while acting as staff members of eleemosynary institutions, without pay.

This law is asked for because of the number of suits filed by irresponsible parties who receive the benefits of free institutions, free board, free medical and surgical care and then seek financial benefits by suing those who have attended them. It seems incredible that such things can occur, but they do occur. Our attorney has such statutory enactment in preparation that will relieve us of such outrageous injustice if it can be enacted into law by the legislature of 1929.

(2) *Every coroner a physician.* The committee submits correspondence received May 8 from our secretary being an action taken by the St. Louis Medical Society, proposing that coroners should be physicians. The letters follow:

St. Louis, May 2, 1928.

To The Legislative Committee,
Missouri State Medical Association,
St. Louis, Missouri.

Gentlemen:

The committee appointed by the President of the St. Louis Medical Society respectfully refers the letters and requests of the Council of the St. Louis Medical Society to you with the recommendation that your committee consider the matter favorably. This committee hopes the Legislative Committee will see fit to inaugurate legislation which will bring about the election of physicians only as coroners in the State of Missouri, or at least have attached an examining physician to the coroner's office.

Very truly yours,

H. S. McKAY, Chairman
JOHN W. STEWART,
E. P. BUDDY.

St. Louis, Mo., February 21, 1928.

Dr. C. H. Neilson,
President St. Louis Medical Society,
3839 Lindell Blvd.,
St. Louis, Missouri.
Dear Dr. Neilson:

In an effort to promote the enforcement of the laws which deal with serious crimes a survey was instituted in Missouri in 1924, the results of which were published in 1926. Associated in this movement were some of the most prominent men in Missouri. In this survey there was no attempt "to fix personal or official guilt," but "the fundamental objective was the study of the system, the laws which condition it and the administrative practices which are characteristic of it." It was a strictly impersonal move to arrive at certain fundamental facts relating to measures that would improve the enforcement of criminal law in this state.

Part 2, Section 2, of this report deals with the office of coroner. Attention is called to the fact that nowhere in Missouri are any professional qualifications required of coroners. The coroner need not be a physician, he need not be a lawyer. However the duties are at once legal and medical, and still a man may be elected who is unable to perform properly either a judicial or a medical act.

In 1913 a law was passed requiring the circuit or prosecuting attorney in cities of 500,000 to attend inquests "in cases of death occurring by violence and which may result in a charge of felony." This is done in the city of St. Louis so that the judicial side of the inquest in this city is properly attended to. Since this law takes care of the legal side it seems even more important, in a community like ours, not to leave wide open the medical aspect of this important office. The coroner is sole judge as to whether or not an autopsy shall be performed. As a matter of fact undertakers who hold the position of coroner often make their own postmortems. Without a physician holding this important office the way is left wide open to homicidal crime and extensive litigation in industrial accidents and insurance cases.

The recommendation of the survey above referred to would establish the medical examiner system, but this is difficult to bring about in this state owing to the fact that the office of coroner is a constitutional one. At least, however, an effort could be made to institute legislation that would assure a physician in this important office, especially in our larger cities. And I believe this society as a whole and as individuals can best serve the interests of this community by insisting on the administration of the work of this office by a qualified physician.

Very truly yours,
RALPH LEROY THOMPSON.

The question of drawing such a bill will be referred to our attorney and will receive the attention of the committee.

Respectfully submitted,

HERMAN E. PEARSE, Chairman
W. L. ALLEE,
ROBERT VINYARD.

REGISTRATION AT 71ST ANNUAL MEETING

Columbia, May 14-18, 1928

M. R. Aldridge, Jefferson City
W. L. Allee, Eldon
J. P. Allen, Cairo
B. Y. Alvis, St. Louis
Axel I. Anderson, Kansas City
W. E. Angell, Rochepoint
W. A. Atkins, Rogersville
W. G. Atwood, Carrollton
C. S. Austin, Carrollton
Carl Barck, St. Louis
A. Leroy Barnard, Rolla
*H. T. Barnes, Pilot Grove
D. A. Barnhart, Huntsville
Willard Bartlett, St. Louis
E. D. Baskett, Columbia
R. S. Battersby, Columbia
S. L. Baysinger, Rolla
Homer A. Beal, Kansas City
T. J. Beattie, Kansas City
W. A. Beckemeyer, Sedalia
T. C. Beckett, Boonville
S. V. Bedford, Jefferson City
Louis H. Behrens, St. Louis
W. E. Belden, Columbia
L. E. Belding, St. Charles
G. E. Bellows, Kansas City
*R. M. Benson, Carrollton
Harry C. Berger, Kansas City

R. W. Berrey, Mexico
W. M. Bickford, Marshall
M. O. Biggs, Louisiana
*A. H. Bindbeutel, St. Louis
*Joseph C. Bloodgood, Baltimore
D. R. Black, Kansas City
W. A. Bloom, Fayette
Peter T. Bohan, Kansas City
Cord Bohling, Sedalia
V. Q. Bonham, Fayette
D. S. Booth, St. Louis
W. F. Botts, Santa Fe
J. J. Bourn, Hannibal
G. A. Bradford, Columbia
Arthur H. Bradley, St. Louis
L. A. Brandenburger, St. Louis
W. H. Breuer, St. James
James R. Bridges, Kahoka
J. G. Bruce, Jefferson City
W. J. Bryan, Mt. Vernon
Jos. L. A. Beuchler, Freeburg
John P. Burke, Jr., California
Chas. F. Burkhalter, Higbee
G. W. Cale, Jr., St. Louis
*J. K. Caldwell, Kansas City

A. J. Campbell, Sedalia
C. S. Capell, Kansas City
C. E. Carlton, Stoutland
Grayson Carroll, St. Louis
Lewis Carthrae, Jr., Corder
*J. Henry Caruthers, St. Louis
John E. Castles, Kansas City
G. L. Chamberlain, New Franklin
L. C. Chenoweth, Joplin
W. A. Clark, Jefferson City
Logan Clendening, Kansas City
Lloyd B. Clinton, Carthage
M. B. CLOPTON, St. Louis
P. F. Cole, Springfield
J. R. Colson, Schell City
*William Condon, St. Louis
D. S. Conley, Columbia
*J. W. Conaway, Columbia
Evan S. Connell, Kansas City
C. C. Conover, Kansas City
H. S. Conrad, St. Joseph
Henry R. Conway, Marshall
Fountain L. Cook, Independence
C. L. Cooper, Kansas City
T. W. Cotton, Van Buren
R. D. Cowan, Aurora
T. B. M. Craig, Nevada
R. O. Crawford, Eldorado Springs
R. N. Crews, Fulton
James A. Crockett, Stanberry
H. S. Crossen, St. Louis
*Thomas S. Cullen, Baltimore
C. C. Cummings, Joplin
R. J. Curdy, Kansas City
Paul C. Davis, Moberly
J. C. B. Davis, Willow Springs
John M. Davis, Craig
J. W. Dawson, Eldorado Springs
R. B. Denny, Creve Coeur
*R. B. Deutsch, Kansas City
E. F. DeVilbiss, Kansas City
Everett R. Deweese, Kansas City
F. E. Dexheimer, Columbia
F. D. Dickson, Kansas City
C. H. Dixon, Moberly
O. Jason Dixon, Kansas City
L. R. Doolin, Gallatin
C. O. Donaldson, Kansas City
R. E. Duncan, Kansas City
C. K. Dutton, Moberly
C. P. Dyer, St. Louis
W. P. Dysart, Columbia
Louis M. Edens, Cabool
L. C. Edmonds, Sedalia
O. R. Edmonds, Tina
Wm. T. Elam, St. Joseph
C. J. Eldridge, Kansas City
B. Landis Elliott, Kansas City
Cortez F. Enloe, Jefferson City
E. John E. Evans, Kansas City
F. H. Ewerhardt, St. Louis
*C. F. Falk, Kansas City
O. P. J. Falk, St. Louis
R. R. Farthing, Ozark
Ralph M. Fellows, Salisbury
A. D. Ferguson, Fulton
Thomas E. Ferrell, Mountain View
*T. E. Ferrell, Jr., Columbia
Ellis Fischel, St. Louis
W. O. Fischer, Columbia
T. S. Fleming, Moberly
G. W. Flynn, St. Louis
C. B. Francisco, Kansas City
J. M. Frankenburger, Kansas City
J. P. Frick, Kansas City
E. C. Funsch, St. Louis
F. B. Fuson, Nevada
L. H. Fuson, St. Joseph
G. T. Gafney, St. Louis
J. J. Gaines, Excelsior Springs
R. J. Gaupel, St. Louis

J. Schooling Gashwiler, Novinger
Ray J. Gay, Bowling Green
Wenzel C. Gayler, St. Louis
O. C. Gebhart, Oregon
E. N. Gentry, Sturgeon
Harry M. Gilkey, Kansas City
F. W. Gillham, Jefferson City
C. E. Gilliland, St. Louis
Oliver S. Gilliland, Kansas City
Wm. L. Gist, Kansas City
Kenneth F. Glaze, St. Louis
Robert Glynn, Springfield
Max Goldman, Kansas City
C. A. Good, St. Joseph
E. J. Goodwin, St. Louis
Abner E. Gore, Marshall
B. G. Gossow, St. Charles
Herman S. Gove, Linn
H. G. Greditzer, St. Louis
*C. H. Greene, Rochester, Minn.
*C. W. Greene, Columbia
Ezra C. Grim, Kirksville
Joseph Grindon, St. Louis
T. P. Gronoway, Macon
P. D. Gum, West Plains
E. A. Gummig, St. Joseph
A. J. Gunn, Versailles
J. De Voine Guyot, Higinville
R. L. Haden, Kansas City
H. W. Harris, Canton
T. H. Hale, St. Louis
Buford G. Hamilton, Kansas City
E. P. Hamilton, Kansas City
R. L. Hamilton, Richmond
C. W. Hamlin, Palmyra
J. F. Hardesty, St. Louis
J. W. Hardesty, Hannibal
J. W. Hardy, Sumner
H. H. Harris, Canton
B. O. Hartwell, Drexel
G. W. Hawkins, Salisbury
W. R. Hawkins, Glasgow
W. O. Hawkins, Roanoke
H. H. Helbing, St. Louis
Richard C. Helman, Kansas City
R. Y. Henry, St. Louis
A. E. Hertzler, Kansas City
H. Lewis Hess, Kansas City
Roland Hill, St. Louis
Carl A. Hobart, St. Louis
E. F. Hooter, Farmington
Frank E. Hogan, Mound City
R. E. Hogan, West Plains
G. W. Hogeboom, Springfield
Ralph W. Holbrook, Kansas City
W. F. Holbrook, Kansas City
M. L. Holliday, St. Joseph
Ross Hopkins, Jefferson City
J. T. Hornback, Nevada
F. A. Howard, Slater
L. E. Huber, Moberly
*J. G. Hultin, St. Louis
Charles D. Humbert, Barnard
E. L. Hume, Bourbon
C. J. Hunt, Kansas City
Joseph L. Hutton, St. Louis
R. F. Hyland, St. Louis
Charles E. Hyndman, St. Louis
Jabez N. Jackson, Kansas City
Luther S. James, Blackburn
R. M. James, Joplin
J. F. Jarvis, Sweet Springs
P. W. Jennings, Canton
G. D. Johnson, Mayville
Wm. E. Johnson, Warrensburg
W. W. Johnston, Jr., Farmington
Harry L. Jones, Kansas City
V. L. Jones, St. Louis
W. G. Jones, Sedalia
*Elliott P. Joslin, Boston, Mass.
F. A. Jostes, Columbia

- *J. T. Judge, St. Louis
A. W. Kampschmidt, Columbia
Homer L. Kerr, Crane
M. B. Ketrion, Kansas City
Roland S. Kieffer, St. Louis
O. C. Kilbourn, Cowgill
Kerwin W. Kinard, Kansas City
C. Kleinschmidt, St. Louis
M. L. Klinefelter, St. Louis
Otto W. Koch, St. Louis
D. H. Kouns, Tusculum
J. S. Knight, Kansas City
Irl B. Krause, Jefferson City
F. J. V. Krebs, St. Louis
F. C. E. Kuhlman, Webster Groves
*J. R. Kuhn, Webb City
F. B. Kyger, Kansas City
T. A. Kyner, Kansas City
Herman A. LaForce, Carthage
H. H. Lane, Kansas City
Herbert S. Langsdorf, St. Louis
John G. Lapp, Kansas City
C. L. Lavender, Columbia
*R. L. Laybourn, Jefferson City
Wm. E. Leighton, St. Louis
J. T. Leslie, Jefferson City
M. E. Lewsley, Moberly
Ira H. Lockwood, Kansas City
F. B. Long, Sedalia
Joseph W. Love, Springfield
Fred M. Lowe, Kansas City
E. Lowrey, Excelsior Springs
Chas. A. Lusk, Butler
J. Curtis Lyter, St. Louis
Carter W. Luter, Adrian
J. D. McAdam, Prairie Hill
A. W. McAlester, Kansas City
A. W. McAlester, Jr., Kansas City
Wm. K. McCall, Laddonia
F. M. McCallum, Kansas City
A. R. McComas, Sturgeon
F. L. McCormick, Moberly
S. R. McCracken, Excelsior Springs
L. G. McCutchen, St. Louis
J. L. McDermott, Kansas City
J. F. McFadden, St. Louis
E. T. McGaugh, Fulton
B. J. McGinnis, Mt. Vernon
John N. McGrath, St. Louis
Morris S. McGuire, Boonville
M. C. McMurry, Paris
H. S. McKay, St. Louis
Alphonse McMahon, St. Louis
Austin McMichael, Rockport
James R. McVay, Kansas City
Hermion S. Major, Kansas City
B. E. Mankopf, Washington
D. F. Manning, Marshall
Edward E. Mansur, Jefferson City
F. H. Maples, Marshall
McKim Marriott, St. Louis
A. H. Marshall, Charleston
Wilfred E. Martin, Odessa
R. E. Mason, St. Louis
Frank G. Mays, Washington
Otto K. Megee, Moberly
E. L. Miller, Kansas City
Elmer P. Monahan, Kansas City
J. G. Montgomery, Kansas City
Neil S. Moore, St. Louis
Sherwood Moore, St. Louis
C. V. Mosby, St. Louis
Robert Mueller, St. Louis
Hugh P. Muir, Columbia
Franklin E. Murphy, Kansas City
B. L. Myers, Kansas City
W. A. Myers, Kansas City
F. C. Narr, Kansas City
M. Pinson Neal, Columbia
*W. A. Neal, Columbia
Frank C. Neff, Kansas City
Robert L. Neff, Joplin
*L. C. Niedner, St. Louis
C. H. Neilson, St. Louis
O. U. Newell, St. Louis
Frank G. Nifong, Columbia
Moss R. Noland, Moberly
Robert M. Norman, Ava
*A. B. Norris, St. Louis
W. A. Norris, Columbia
Emmett P. North, St. Louis
Nelse F. Ockerblad, Kansas City
J. H. Ogilvie, Kansas City
C. D. O'Keefe, St. Louis
E. A. Oliver, Richland
T. G. Orr, Kansas City
M. P. Overholser, St. Joseph
Henry I. Owen, Fulton
J. H. Owens, Sweet Springs
P. H. Owens, Kansas City
E. V. Pare, Leeton
F. P. Parker, St. Louis
H. F. Parker, Warrensburg
C. C. Parmer, Centralia
John E. Parmer, Mokane
E. E. Parrish, Memphis
Wm. R. Patterson, Warrensburg
W. G. Patton, St. Louis
H. E. Pearce, Kansas City
J. W. Pickel, Barnhart
C. D. Pickrell, St. Louis
H. E. Pinkerton, Jefferson City
Walter D. Pipkin, Monroe City
R. F. Pittam, Kansas City
Wm. O. Pool, Stoutland
B. A. Poorman, Kansas City
Lawrence T. Post, St. Louis
Frank M. Postlethwaite, Kansas City
*F. M. Pottenger, Monrovia, Calif.
Caryl A. Potter, St. Joseph
J. F. Potts, Boonville
Carl A. Powell, St. Louis
J. A. Powers, Warrensburg
O. J. Printz, Kansas City
A. W. Proetz, St. Louis
H. B. Pryor, Ashland
Bryon T. Quigley, St. Joseph
Abram T. Quinn, St. Louis
*J. W. Quinn, St. Louis
S. T. Ragan, Moberly
Warren R. Rainey, St. Louis
M. P. Ravenel, Columbia
Spence Redman, Platte City
Frank I. Ridge, Kansas City
Sam E. Roberts, Kansas City
G. W. Wilse Robinson, Kansas City
J. L. Robinson, Kansas City
Dudley A. Robnett, Columbia
*E. J. Rohan, Racine, Wis.
*T. A. Rohan, St. Louis
T. H. Romeiser, Nevada
T. A. Roselle, Hannibal
*Mrs. Kate Rubey, St. Louis
E. McD. Rusk, New Bloomfield
G. A. Russell, Boonville
R. L. Russell, Jefferson City
C. T. Ryland, Lexington
Frank L. Sanders, Kansas City
J. Hoy Sanford, St. Louis
L. E. Saunders, Stewartsville
E. H. Schaefer, Sedalia
*J. M. Schattyn, St. Louis
R. M. Schaeffer, Kansas City
H. J. Scherck, St. Louis
R. E. Schlueter, St. Louis
L. J. Schofield, Warrensburg
R. C. Schooley, Odessa
A. P. Erich Schulz, St. Charles
W. R. Shaefer, Columbia
W. L. Sharp, St. Louis
W. J. Shaw, Fayette
M. C. Shelton, Joplin
A. R. Shreffler, St. Louis
Lee I. Shuck, Nelson
C. H. Shutt, St. Louis
Frederick C. Simon, St. Louis
Guy L. Simpson, St. Louis
Morris B. Simpson, Kansas City
R. H. Simpson, St. Louis
W. L. Small, Kansas City
Lawrence L. Smith, Bethel
*Leslie L. Smith, Urich
S. D. Smith, Columbia
Wallis Smith, Springfield
W. A. Smith, St. Louis
*Frank Smithies, Chicago
C. M. Sneed, Columbia
Sam H. Snider, Kansas City
B. M. Spotts, Marshall
M. E. Spurgeon, Red Bird
*R. U. Stevens, Kansas City
J. Edgar Stewart, St. Louis
James Stewart, Jefferson City
Dan G. Stine, Columbia
D. D. Stofor, Kansas City
Wm. E. Stone, Boonville
James E. Stowers, Kansas City
C. D. Stratton, Rothville
G. V. Stryker, St. Louis
B. K. Stumberg, St. Charles
Chas. H. Suddarth, Excelsior Springs
F. C. Suggett, Columbia
J. S. Summers, Jefferson City
*G. Sutcliffe, St. Louis
Raymond W. Swinney, Kansas City
Hudson Talbott, St. Louis
P. S. Tate, Farmington
F. R. Teachenor, Kansas City
J. A. Tesson, Kansas City
C. W. Thierry, St. Louis
E. A. B. Thompson, Breckenridge
J. H. Thompson, Kansas City
J. W. Thompson, Jr., St. Louis
Ralph L. Thompson, St. Louis
J. H. Timberman, Chillicothe
Joseph C. Tincher, Boonville
Guy Tittsworth, Sedalia
P. F. Titterington, St. Louis
*W. B. Todd, Versailles
George W. Toney, Piedmont
J. S. Triplett, Harrisonville
Ellsworth H. Trowbridge, Kansas City
Tom Twyman, Independence
Ross H. Underwood, Kansas City
Herbert S. Valentine, Kansas City
A. Van Ravenswaay, Boonville
C. H. Van Ravenswaay, Boonville
*B. W. Vaughan, Columbia
J. R. Vaughan, St. Louis
W. L. Veirs, Pleasant Hill
Robert Vinyard, St. Louis
*A. E. Vitt, St. Louis
G. D. Walker, Eldon
*J. L. Walker, Union
Chas. H. Wallace, St. Joseph
C. H. Wallace, Jr., St. Joseph
Hilan K. Wallace, St. Joseph
James R. Wallis, Clinton
*J. O. Walrond, Kansas City
A. L. Walter, Sedalia
R. W. Webster, Carthage
Edward F. Weir, Meadville
A. J. Welch, Kansas City
A. S. Welch, Kansas City
W. A. Welch, Callao
J. E. Welker, Kansas City
A. L. Wessling, Bethany
F. J. Wessling, Freeburg
W. D. West, Mendon
Wm. M. West, Monett
Nevin M. Wetzel, Jameson
Edwin C. White, Kansas City
*W. G. White, Centralia
W. S. Wiatt, St. Louis
T. Hurley Wilcoxon, Bowling Green
Otto J. Welhmi, St. Louis
Porter E. Williams, Kansas City
Wm. H. Williamson, Mokane
Paul R. Williams, Cape Girardeau
L. G. Willits, Kansas City
W. J. Wills, Springfield
L. A. Wilson, Cameron
R. P. C. Wilson, Platte City
J. W. Winn, Higbee
H. J. Wise, Sparta
Robert A. Woods, Clark
V. V. Wood, St. Louis
Paul V. Woolley, Kansas City
R. A. Woolsey, St. Louis
E. F. Yancey, Sedalia
Martin Yates, Fulton
D. H. Young, Fulton
Willis B. Young, St. Louis
O. B. Zeinert, St. Louis
W. H. Ziegler, Pilot Grove
Total, 476.
* Visitor.

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society held its regular monthly meeting in the Court House at Butler, Thursday afternoon, April 26, 1928. The inclement weather prevented many from attending the meeting which accounted for the small attendance. Among those present were: Drs. E. N. Chastain, R. E. Crabtree, J. S. Newlon and G. H. Thiele, of Butler; Drs. C. W. Luter and E. E. Robinson, Adrian. A short business meeting was held.

The program was one of open and general discussion by all present on "Our Most Interesting Case of the Month." We feel that often such discussion is very profitable and practicable and that meeting, seeing and hearing the other physician's problems often aids one in his own. All present presented some interesting case and free discussion was given.

The meeting was a very profitable one and we are sorry that all the members could not attend.
C. W. LUTER, M.D., Secretary.

BOONE COUNTY MEDICAL SOCIETY

The April 3, 1928, meeting of the Boone County Medical Society was called to order by the president, Dr. M. Pinson Neal, Columbia, at 8:00 p. m. The minutes of the previous meeting were read and approved.

Applications for membership of Drs. Charles W. Austene, John T. Hickerson and W. G. White, of Centralia, and A. B. Lawrence, of Columbia, were read. A motion was made that the applications be referred to the committee of censors and that their report be given at the next meeting.

A program of postgraduate course in medicine and neurology of the St. Louis Clinics was read.

The committee of censors reported favorably on the application for membership of Dr. O. B. Mayes, Centralia, and he was unanimously elected to membership.

A very interesting talk and demonstration on "Electrocardiography" was given by Dr. C. W. Greene, Columbia, Professor of Physiology, University of Missouri.

HUGH P. MUIR, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The April meeting of the Clay County Medical Society was held at Liberty, April 26, 1928, beginning with a dinner in the well known Major Hotel at 6:00 p. m. Twenty-three members and their wives were present.

Our Woman's Auxiliary is manifestly enthusiastic in their work. By invitation they sat through a moving picture exhibited by Parke, Davis & Company on "How Biologicals Are Made." It was a very interesting half-hour.

The scientific program which followed immediately consisted of a symposium on "The Clinical Application of Serums, Vaccines and Antigens." Drs. W. H. Goodson and J. H. Rothwell, of Liberty, addressed the assemblage, both quoting from extensive experiences. The subject of antitetanic serum was thoroughly discussed as well as that for scarlet fever. Mr. Tucker, of Parke, Davis & Company, answered many questions on valences and clinical indications for certain dosage. Every member present had something to say. It was a characteristic good meeting and the members were well repaid for attending.

A number of delinquent members are still waiting for developments, presumably. Neglect never pays. Membership in our Society is a thing to be proud of. Our STATE JOURNAL is worth the entire membership fee.

JOHN J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the High School auditorium at Clinton, April 25, 1928, at 1:30 p. m. with the following members present: Drs. J. G. Beaty, F. M. Douglass, R. D. Haire, J. R. Hampton, E. C. Peelor, S. A. Poague, N. I. Stebbins, G. S. Walker, J. R. Wallis and S. W. Woltzen, of Clinton; Walter E. Baggerly, LaDue; J. W. Galbreath, Ulrich; John J. Russell, Deepwater. Guests: Drs. James R. Elliott, Ralph W. Holbrook and Earl C. Padgett, of Kansas City.

Dr. Ralph W. Holbrook, Kansas City, discussed the subject of "Diet in Stomach Disorders."

Dr. James R. Elliott, Kansas City, held an orthopedic clinic and spoke on "Common Foot Disorders."

Dr. Earl C. Padgett, Kansas City, read a paper

on "Different Phases of Plastic Surgery" and illustrated his subject with lantern slides.

A vote of thanks was extended the visiting doctors for their interesting and instructive papers.

Meeting of May 23, 1928

At a meeting of the Society held in the County Court Room at Clinton, May 23, 1928, at 1:30 p. m., the following members were present: Drs. J. G. Beaty, Frank M. Douglass, Edwin C. Peelor, George S. Walker, James R. Wallis and Simon W. Woltzen, of Clinton; John J. Russell, Deepwater; W. P. Bradley, Windsor. Visitors: Drs. C. D. Taylor, Brownington; A. C. Ward, of Osceola; Eugene P. Hamilton, Evan S. Connell and Harry L. Jones, of Kansas City.

Dr. Frank M. Douglass, Clinton, presided in the absence of the president and vice president.

The scientific program was furnished by the Southwest Clinical Society of Kansas City as follows:

Dr. Eugene P. Hamilton, Kansas City, read an interesting paper on "Difficulties in Diagnosis of Acute Abdominal Conditions."

"The Acute Ear" was the subject of a talk by Dr. Evan S. Connell, Kansas City.

Dr. Harry L. Jones, Kansas City, gave an instructive paper on "Blood Dyscrasia."

On behalf of the Society the Chairman, Dr. Frank M. Douglass, Clinton, thanked Drs. Hamilton, Connell and Jones for their excellent papers.

S. W. WOLTZEN, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met April 17, 1928, at Memorial Hall, Carthage, at eight o'clock. The meeting was called to order by the President, Dr. John L. Sims, Joplin. Twenty-six members were present. Visitors: Dr. H. L. Stelle, Pittsburg, Kansas; Dr. W. B. York, Sarcocixie; Dr. Douglas, Webb City; Drs. R. E. Duncan, M. A. Hanna and Harry M. Gilkey, of Kansas City. The minutes of the meeting of April 10 were read and approved.

The essayists of the evening were Dr. M. A. Hanna and Dr. Harry M. Gilkey, of Kansas City.

The first speaker was Dr. M. A. Hanna who chose for his subject, "Office Treatment of Endocervicitis." He discussed the various office procedures, namely, the local treatment with silver salts and the cautery. He paid particular attention to the possibility of focal infection due to the structure of the glands of the cervix.

Dr. Harry M. Gilkey followed with a lecture on "Nutritional Diseases of Children" illustrated with lantern slides. Scurvy and rickets were particularly illustrated with lantern slides and X-ray. A pathological specimen was presented showing the effects of scurvy. He also discussed some unusual and rare conditions found in children.

These lectures were especially timely and were enjoyed by everyone as they were applicable to everyday practice. They were discussed by Drs. J. W. Barson, W. E. Craig, and Dr. L. B. Clinton.

Many members expressed their appreciation of the program.

Through the efforts of Dr. L. B. Clinton, Joplin, and Dr. E. J. McIntire, Carthage, a delightful "sandwich supper" was served at the close of the meeting.

Meeting of April 24, 1928

The April 24, 1928, meeting of the Society was

held at the Y. M. C. A., Joplin, at eight p. m. with President John L. Sims, Joplin, in the chair. Twenty-eight members and five guests were present. The minutes of the meeting of April 17 were read and approved.

President Sims introduced Drs. Sam H. Snider and H. P. Boughnou, of Kansas City.

Dr. Sam Snider discussed "Tuberculosis" which, although being a broad subject, was covered in many phases in an able and instructive manner. He stressed the importance of early diagnosis and the careful examination necessary in this disease. He also discussed the merits of artificial pneumothorax in the treatment of tuberculosis and the type of case in which it was indicated and contraindicated. He illustrated these types with X-ray films and gave reports of many cases.

Dr. H. P. Boughnou gave a very instructive paper on "Basal Metabolism and its Application in Thyroid Work." This was especially instructive to the clinician in this field as he stressed the dangers which many find in the application of a mechanical test without the careful clinical observation of the patient. The importance of these facts must all be interpreted in making a final diagnosis.

These subjects were fully discussed by many of the members.

Meeting of May 1, 1928

The May 1, 1928, meeting of the Society was held at the Joplin Y. M. C. A. at eight p. m. The President, Dr. John L. Sims, Joplin, presided. There were thirty-five members and twenty-nine guests present. The minutes of the previous meeting were read and approved.

The scientific program was given by Drs. Frank J. Hall, Paul F. Stookey and Ralph E. Duncan, of Kansas City.

Dr. Frank J. Hall gave a lecture on: "The Structure and Physiology of the Heart" and "Pathology of the Myocardium and Endocardium," with a demonstration of specimens. Dr. Hall covered the subject in his usual interesting and instructive manner. He discussed particularly the structures in reference to the pathological conditions which might affect each part.

Dr. Paul F. Stookey presented a paper on "Syphilis of the Heart," stressing the importance of careful examination of all patients affected with syphilis, especially the elderly patient, and the careful treatment with small doses of arsenamine if the heart shows the least pathology.

Dr. Ralph E. Duncan talked on the "Functional Tests of the Heart." He reviewed the various tests as they have been used and the gradual rejection of all except a few. He discussed tests used in the late war but later found to be of little value as they could not be applied accurately to all cases. He spoke of the electrocardiograph and its application to heart cases and stressed the importance of technic and ability to interpret the findings after the test. The value of the electrocardiograph was shown in certain types of cases in which other means were uncertain.

Meeting of May 8, 1928

The Society met in regular session at the Y. M. C. A., Joplin, at eight p. m. The President, Dr. John L. Sims, Joplin, being called away from the meeting, Dr. L. C. Chenoweth, Joplin, took

the chair. Seventeen members and one visitor, Dr. H. L. Wilbur, Joplin, were present.

A motion was made and seconded that the Jasper County Medical Society invite the Missouri State Medical Association to hold its 1929 meeting in Joplin. Motion carried.

Dr. J. W. Barson, Joplin, presented a case of hydrocephalus in an infant which Dr. J. M. Gray, Chitwood, had delivered. Dr. Gray reported the details of the labor and the development of the condition of the child following labor. This case was discussed at length.

Dr. C. C. Cummings, Joplin, reported a case of eclampsia and the treatment used. Drs. J. W. Barson, J. A. Chenoweth, S. H. Miller and H. L. Wilbur discussed this subject, particularly the course of treatment indicated. There was a variance of opinion in regard to the efficacy of *veratrum viride*.

The treatment of syphilis was discussed by Drs. C. C. Cummings, J. A. Chenoweth, J. M. Gray, R. M. James and S. H. Miller.

Meeting of May 22, 1928

The Society met in regular session at the Joplin Y. M. C. A. at eight p. m. The President, Dr. John L. Sims, Joplin, presided. Twenty members were present. Visitors: Dr. LeRoy W. Baxter, Columbus, Kansas; Dr. C. S. Newman, Pittsburg, Kansas; Dr. J. H. Parker, State Hospital No. 3, Nevada; Misses Cook, Wilson, McConaghy and Mrs. John W. Barson, Joplin. The minutes of the meeting of May 8 were read and approved.

A motion was made, seconded and carried that we have a banquet at the next meeting and invite our wives.

The speakers of the evening were Drs. C. S. Newman, Pittsburg, Kansas, and J. H. Parker, Superintendent of State Hospital No. 3, Nevada.

Dr. Newman was introduced by the president and gave a lecture on "Appendicitis." He presented the subject in a very instructive manner and concluded with a discussion of the various symptoms seen in this disease. He particularly stressed the symptom of pain which is always present in all acute cases in some stage of the attack.

Dr. Parker talked on "Malarial Treatment of General Paresis." He reviewed this form of treatment and the results obtained since its introduction. He gave the data obtained since he introduced this form of treatment in Missouri in 1923 and the results at the various state hospitals since that time. He compared this data with that of other states, the results being similar. The statistics show a much higher percentage of cures under malarial treatment than any other known form of therapy.

Both subjects were very ably presented by the lecturers and the majority of the members present participated in the discussion, giving evidence of their deep interest.

ROY E. MYERS, M.D., Secretary.

JEFFERSON COUNTY MEDICAL SOCIETY

A meeting of the Jefferson County Medical Society was held at DeSoto, April 20, 1928. This meeting was a departure from the usual run of our meetings as the DeSoto members arranged to have all present at 8:00 p. m. to partake of a chicken dinner which was served at the Commercial Hotel.

After doing justice to the delectable "eats" the members assembled in Dr. Wm. H. Farrar's office

to enjoy an intellectual feast which was delivered by Dr. G. D. Royston, St. Louis, Professor of Obstetrics, Washington University Medical School.

All the members present felt grateful to Dr. Royston for his instructive address and we are sure they were benefited by his remarks.

Those present were: Drs. C. E. Fallet, Wm. H. Farrar and Walter E. Gibson, of DeSoto; J. F. Donnell, Crystal City; N. W. Jarvis, Festus; J. W. Pickel, Barnhart; Harry Yoskit, Festus.

The meeting adjourned, the members feeling that they had spent an evening that was indeed profitable to all.

N. W. JARVIS, M.D., Secretary.

RAY COUNTY MEDICAL SOCIETY

At a meeting of the Ray County Medical Medical Society held in the assembly room of the Court House at Richmond, April 17, 1928, Dr. Grover W. Gaines, Rayville, was reelected president; Dr. T. F. Cook, Richmond, secretary-treasurer; Dr. Robert L. Hamilton, Richmond, delegate; Dr. L. D. Greene, Richmond, alternate.

ROBERT L. HAMILTON, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The meeting of the Schuyler County Medical Society held at Lancaster, May 8, 1928, was called to order at 3 p. m. by the Vice President, Dr. A. J. Drake, Lancaster. Members present: Drs. A. J. Drake and J. H. Keller, Lancaster; J. B. Bridges, Downing; O. P. Farrington, Greentop. The minutes of the last meeting were read and approved.

No scientific papers were read but cases were reported and a number of subjects discussed.

The following officers were elected for 1928: President, H. E. Gerwig, Downing; vice president, A. J. Drake, Lancaster; secretary-treasurer, J. B. Bridges, Downing; delegate, H. E. Gerwig, Downing; alternate, O. P. Farrington, Greentop.

J. B. BRIDGES, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held in the Webster Groves Trust Company, May 9, 1928, at 3 p. m. The meeting was called to order by the President, Dr. F. P. Knabb, Valley Park, with the following members present: Drs. H. N. Corley, C. C. Irick, Wm. F. O'Malley and A. W. Westrup, of Webster Groves; F. P. Knabb, Valley Park; Harry Greensfelder and John H. Sutter, University City; E. E. Tremain and W. H. Townsend, Maplewood; O. N. Schudde, Ferguson; John O. Connell and J. A. Pritchard, Overland; C. P. Dyer, St. Louis; James A. Townsend, Eureka; John H. Armstrong, Kirkwood; R. B. Denny, Creve Coeur. Visitor, Dr. P. N. Davis, Maplewood.

A very interesting and instructive paper was given by Dr. Ralph A. Kinsella, St. Louis, on the "Pathogenesis of Rheumatism."

On recommendation of the membership committee Dr. H. P. Durbin, Webster Groves, was elected a member.

Dr. R. B. Denny, Creve Coeur, delegate for the State convention in 1927, was reappointed for 1928. Under the new Constitution and By-Laws of the State Association the Society is entitled to two delegates and Dr. C. P. Dyer, St. Louis, was appointed as the second delegate. Alternate delegates are Dr. Horine Miles, Webster Groves; Dr. James A. Townsend, Eureka.

E. E. TREMAIN, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.

President-Elect, Mrs. M. P. Ravenel, Columbia.

1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. Hudson Talbott, St. Louis.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.

Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Shaufler, Kansas City; Mrs. J. F. Owens, St. Joseph; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Hinchey, University City; Mrs. H. A. Brierly, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler.

ORGANIZED COUNTIES AND PRESIDENTS OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. R. W. Berrey.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph
Butler.....	Mrs. L. B. Knecht.....	Poplar Bluff
Cape Girardeau.....	Mrs. W. W. Ford.....	Gordonville
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Daviess.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. W. S. Campbell.....	Albany
Greene.....	Mrs. T. O. Klingner.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
Henry.....	Mrs. R. D. Hare.....	Clinton
Holt.....	Mrs. F. E. Hogan.....	Mound City
Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
Jasper.....	Mrs. C. C. Cummings.....	Joplin
Johnson.....	Mrs. H. F. Parker.....	Warrensburg
Knox.....	Mrs. W. F. O'Conner.....	Edina
Lafayette.....	Mrs. J. D. Guyot.....	Higginsville
New Madrid.....	Mrs. P. M. Mayfield.....	Portageville
Pike.....	Mrs. T. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Louis City.....	Mrs. Hudson Talbott.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

LETTER FROM THE PRESIDENT TO THE COUNTY AUXILIARIES

To County Auxiliaries:

May I, in the new capacity of your state president, send an informal greeting to all the women of the Auxiliary? The recommendations for our year's program of health work will come to you later through the chairman of education. It stresses the six and nine point child, Hygeia, and our continued cooperation with the great health agencies of the state, the State Board of Health, The Parent Teacher's Association, the Tuberculosis Society, and others.

As the time for local meetings and activity differs, I am at once forwarding to you information

of a project we will immediately undertake as our next step in the realization of ourselves as an organization. At the Annual Meeting in Columbia, the recommendation of the chairman of organization was accepted that a yearbook be issued. It will go to press November 15, containing a complete roster of officers and members of each county auxiliary in the state, with addresses, members at large, national and state officers, constitution and by-laws in present and proposed form, a brief statement about our aims and work, a calendar, and any other concise data deemed advisable by the committee. This yearbook will be financed by paid advertisements which we will secure from all types of advertisers who conform to ethical standards. For instance, druggists, hospital supply houses, hotels, automobile and optical companies, schools, colleges and manufacturers. In the large cities there is a fine field for making money in this way. As the yearbook will be in the household of many physicians for a year or more it should appeal to advertisers.

Each county president is requested to appoint a local yearbook committee and send the name and address of the chairman to Mrs. Harry Field Parker, Warrensburg, Chairman of the State Yearbook, or to act herself. In order to give those women who have been slow in joining the Auxiliary, or in paying their dues, the opportunity of having their names included, a membership drive is essential. The State Executive Board requests that you give publicity to the issuing of the yearbook, and decide for yourself the best time and method for the drive, remembering that the book will go to press November 15 and names must be in by October 15. When your roster is complete and correct, please send it to the corresponding secretary, Mrs. Theodore P. Brookes, 1650 South Grand Ave., St. Louis.

MRS. WILLARD BARTLETT,
President.

JASPER COUNTY AUXILIARY

We are organized at last. The physicians gave a dinner, inviting their wives, when they disbanded for the summer. Our organization began there with a temporary chairman and secretary, adjourning to June 8 for permanent organization. The officers are: President, Mrs. C. C. Cummings, Joplin; first vice president, Mrs. J. T. Douglas, Webb City; second vice president, Mrs. E. D. Hatcher, Carthage; secretary, Mrs. S. A. Grantham, Joplin; treasurer, Mrs. R. L. Neff, Joplin. Committees are being appointed. The Auxiliary is going with a lot of enthusiasm.

MRS. C. C. CUMMINGS, President.

BOOK REVIEWS

THE ABDOMINAL SURGERY OF CHILDREN. By L. E. Barrington-Ward, Ch.M., F.R.C.S. (Edin.), F.R.C.S. (Eng.). Surgeon, Hospital for Sick Children, Great Ormond Street, etc. Oxford University Press. American Branch, 35 West 32nd Street, New York City. Price \$4.50.

This is a small but timely book which is limited strictly to the surgery of the abdomen in children.

The author has drawn largely upon his personal experience, but gives due credit to his colleagues and has appended at the end of each chapter a bibliography of the most important recent contributions. Written primarily as an aid in the diagnosis

of abdominal conditions the book is well illustrated and the clinical signs and symptoms are stressed rather than the operative technic. It is of particular value to the surgeon who is called upon only occasionally to deal with surgical problems of children and an effort is made to distinguish between these problems and those encountered in adult life. In general, the methods advocated are well established ones and should be familiar to all abdominal surgeons. We might take exception to the statement that in congenital pyloric stenosis the operation should be undertaken only under general anesthesia. For years the reviewer and his associates have used local anesthesia with great satisfaction in these cases. For the most part, the principles advocated throughout the book require no comment inasmuch as they are universally accepted.

The book will be a valuable addition to any surgeon's library and of particular value to pediatricians.
A. O. F.

ASTHMA. Its Diagnosis and Treatment. By William S. Thomas, M.D., Associate Attending Physician in Immunology, St. Luke's Hospital, New York. Twenty illustrations in black and white and six in color. New York: Paul B. Hoeber, Inc. 1928. Price \$7.50.

This is really a textbook on asthma. During the last few years many clinics have been organized in various medical centers for studying the various problems of allergy. The literature has been voluminous but rather disconnected. This work supplies a brief yet comprehensive account of the disease known as asthma.

The subject matter is discussed in a very orderly manner. The major portion is, of course, devoted to skin reactions, materials used, methods of using them, and how the reactions should be interpreted. The four classes of offending proteins are: air borne, food, pollen and bacterial. Long lists of these are given and special mention made of those which are common offenders. The chapters on bacterial causes are good although brief.

The book fails to discuss the underlying causes of asthma. This is all right as there is very little known about them. It is sufficient now to try and find out the things which produce the attacks.

There are a number of good illustrations, some of them in color. The book is printed on exceptionally good paper and is very readable. There is a very complete bibliography. Three hundred and twenty six different articles are listed in an appendix and referred to by number. Every practitioner dealing with asthma should read this book.
H. L. M.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. DeLee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School, etc. With 1,128 illustrations on 923 figures, 201 of them in colors. Fifth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1928. Price \$12.00.

The 5th edition of this book is larger than the 4th by some 40 pages and it contains all obstetrical knowledge up-to-date. Menstruation and ovulation are discussed from the most advanced viewpoints and mention is made of the recent work of Frank, Goldberger, and others. In the chapter devoted to anesthesia in obstetrics all methods are given in detail, the author favoring gas oxygen and ethylene. The chapter on "Forceps" has been enlarged and new illustrations added to show the various applications of forceps. The treatment of the toxemias

of pregnancy remains the same but mention is made of the latest experimental work on this subject.

The book is written in a clear and concise manner so that reading it is a pleasure. The illustrations are clear and well executed enabling one to obtain much information from a study of them alone. At the end of each chapter a complete bibliography is appended. This book will remain a standard in obstetrical literature for many years.
D. T. V.

THE EAR, NOSE, AND THROAT IN GENERAL PRACTICE. By D. A. Crow, M.B., Ch.B. (Edin.) Otolaryngologist, The Royal Sussex County Hospital, Brighton, etc. Oxford University Press. American Branch, 35 West 32nd St., New York City, N. Y. 1927. Price \$3.25.

The author's idea of a textbook on the Ear, Nose and Throat for the general practitioner is indeed well carried out in this book. The chapter on the "Acute Ear" is especially good.
M. B. S.

CARDIAC ARRHYTHMIAS. By Irving R. Roth, M.D., Assistant in Medicine; Chief, Children's Cardiac Clinic, Mt. Sinai Hospital, etc. Introduction by Emanuel Libman, M.D., Clinical Professor of Medicine, Columbia University. With eighty illustrations and five tables. New York: Paul B. Hoeber, Inc. 1928. Price \$7.50.

This is one of Hoeber's magnificently gotten up volumes. The paper is highly calendered and the printing is excellent. The illustrations are beyond reproach, and on opening the book one is led to expect as high a grade of contents as of appearance.

The book is practically a study of the electrocardiograph in its use in the study of heart disease. The author devotes some sixty-six pages to anatomy and physiology, then about a hundred fifty-six to the discussion of the cardiac arrhythmias. He names the arrhythmias as the sums arrhythmias, the auriculoventricular heart blocks, the extra systolic arrhythmias, the paroxysmal tachycardias, the auricular fibrillations, the auricular flutters, and the combined arrhythmias.

The author's statements are very concise and to the point. One could wish that he discussed more of the unusual and irregular things that one meets in his cardiographic studies. Your reviewer has had some experience in attempting to interpret the electrocardiograms from his own machine and he feels that the matter is something like the study of French verbs,—that there are more irregular than there are regular ones. However, Dr. Roth has attempted to establish principles and if one can use these principles and apply them to the given cases he will be helped out to great extent. Pardee's book has won rather international respect because Dr. Pardee simply recorded what he found and did not try to establish the general laws. He felt that he was too early in the game to establish the principles and laws. Similarly Professor Wilson and Dr. Parkinson, of London, have not tried to establish the general principles. Perhaps now we have reached the stage where one can gather up the findings of the last twenty years and enunciate principles that will stand investigation. Thus the circus movement interpretation of auricular fibrillation was enunciated in 1920. It seems still to be holding good, but one who has been through the various interpretations of cardiac arrhythmias does not yet feel confident that it is the final interpretation.

In other words, the book is a good one for every electrocardiographer to have.
G. H. H.

LOBAR PNEUMONIA. A Roentgenological Study. By L. R. Sante, M.D., F.A.C.R., F.A.C.P., Associate Professor of Radiology, St. Louis University Medical School, etc. With a foreword by James T. Case, M.D., F.A.C.S., Battle Creek, Mich. New York: Paul B. Hoeber, Inc. 1928. Price \$3.00.

Sante has produced a splendid monograph upon the pneumonias by taking advantage of the sympathetic cooperation of clinicians at his institutions. In spite of experimental studies and clinical research the death rate of the pneumonias remains about the same (33 per cent.). Among others, Sante has previously shown that adult lobar pneumonia begins as a consolidation at the hilum and spreads to the periphery rapidly. In children the initial consolidation is at the periphery.

The author is impressed with the value of serial roentgenograms at daily intervals in the acute pulmonary infections because of the accuracy of the roentgen record of pulmonary involvement in comparison with the usual clinical examination. The advent of pneumococcus Type 1 serum and the obvious necessity of early diagnosis are arguments of the author for repeated early X-ray examinations of the acute chest.

Sante has arranged this thesis with splendid simplicity, orderly logic and ample illustrations. He takes up the pathology, method of inoculation, spread of the organism, roentgenographic characteristics and course of the disease in separate chapters. He discusses the method of onset in children, hilum pneumonia and the complications, before discussing the prognosis and differential roentgen ray diagnosis of various conflicting clinical pictures.

One is inclined to congratulate the internist (Kinsella) who has encouraged Sante in the pursuit of this instructive study. Undoubtedly it will promote the routine examination of acute pulmonary pathology in hospitals that are equipped with portable apparatus suitable for bedside X-ray examination.

Internists will find in this excellent treatise many helpful and stimulating suggestions.

Mr. Hoeber, the publisher, is to be praised for producing so valuable a monograph with many illustrations and attractive typography at such small cost.
E. H. S.

PROPAGANDA FOR REFORM

CONCENTRATED ORCHITIC SOLUTION (Orchitic Substance Concentrated-Cousineau) Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Concentrated Orchitic Solution, also called Orchitic Substance Concentrated (Cousineau), is marketed by the California Endocrine Foundation Laboratories, Long Beach, California. According to the label on the specimen it is "A Preparation of Orcho-Plasm Ramm Derivative" while in an advertising booklet it is stated that it "consists of the small, hard, testicular gland of the healthy, young, live Goat, Ram or Monkey," and "contains saturation of the whole gland substance in solution ideally compounded." The Council found that many unwarranted and unsupported claims were made for the preparation, and hence, declared it inadmissible to New and Nonofficial Remedies. When the Council's statement was sent the California Endocrine Foundation Laboratories, the firm submitted a proposed revision of an advertising booklet. In the advertising the general impression is given that gland implants such as those of Voronoff are highly effective, and that the manufacturer's product, administered hypodermically, will give equally good

or better results. Even if the proposed revision of claims is made, the preparation is still unacceptable for the reason that the manufacturer has not submitted any scientific evidence for the therapeutic usefulness and efficacy of the product. The Council, therefore, declared Concentrated Orchitic Solution (Orchitic Substance Concentrated-Cousineau) unacceptable for New and Nonofficial Remedies. (*Jour. A. M. A.*, October 8, 1927, 1927, p. 1267.)

THE STANDARD LABORATORIES FIASCO.—About thirteen years ago a concern known as the Truax Laboratories was operating in Chicago. Its method was to sell to dispensing physicians individual packages containing stock prescriptions. When the physician had spent \$100 with the Truax Laboratories, he received a "profit-sharing debenture of \$25." Later the name of the concern was changed to "Standard Laboratories, Inc.," and the methods of doing business were also changed. The Standard Laboratories, Inc., got dispensing physicians to deposit \$100 with it, which was to be "taken out" in drugs. When the doctor had bought \$100 worth of drugs he was issued a "\$25 debenture profit-sharing certificate" that was worth nothing until 30,000 of them had been issued, at which time it would be accepted as stock in the company. In 1919, when the Standard Laboratories wished to advertise in *The Journal of the American Medical Association*, it was told that its methods were not such as would commend themselves to the ethical conscience of the profession. It was pointed out that the Principles of Medical Ethics states that "it is unprofessional. . . . to accept rebates on prescriptions." Patently, the physician who held stock in the Standard Laboratories or who shared in its earnings was, in effect, accepting a rebate every time he prescribed its products. Present interest in this matter is stimulated by a small news item to the effect that Standard Laboratories, Inc., had just filed a voluntary petition in bankruptcy in the United States District Court. (*Jour. A. M. A.*, September 10, 1927, p. 866.)

PREVENTION OF COLDS BY ULTRAVIOLET RADIATION.—In 1926, Barenberg, Friedman and Green found that infants exposed to ultraviolet radiation improved in general health during the first month of treatment but contracted an increased number of colds during the second, third and fourth months. Accordingly, Maughan and Smiley attempted to administer a quantity of ultraviolet radiation equivalent to that to which the ordinary city dweller is exposed during the summer. They conclude that irradiation, resulted in a reduction in the frequency of colds. Barenberg and Lewis have completed further experiments in which overirradiation was guarded against. Their results were no better than before. On the one hand are well controlled experiments with negative results in which the dosage was large. On the other hand are imperfectly controlled experiments and success which the investigators attribute to low dosage. Positive statements, faith and investments may well await further evidence. (*Jour. A. M. A.*, February 18, 1928, p. 547.)

REFRACTORINESS TO INSULIN.—There is a gradually increasing number of records of diabetic patients who seem to be resistant to the expected remedial action of insulin. In a recent case, a patient proved relatively refractory to insulin for some months, responded only to enormous doses, and slipped into coma or precoma as soon as these doses were reduced. Tests showed that the refractory condition was not due to an inhibitory substance—an anti-insulin—in the blood. The observers of this case are inclined to believe that the peculiar reactions

shown by their patient can best be explained by assuming that the diabetes was not due exclusively to pancreatic insufficiency but to the lack of some substance other than insulin and equally necessary for the metabolism of carbohydrates. (*Jour. A. M. A.*, February 18, 1928, p. 549.)

NEW AND NONOFFICIAL REMEDIES

LIVER EXTRACT No. 343.—A water-soluble, nitrogenous, non-protein fraction obtained from fresh mammalian liver, manufactured under direction of the Committee on Pernicious Anemia of the Harvard Medical School. It is supplied in vials containing an amount of powdered extract (3 to 4 Gm.) representing 100 Gm. of fresh liver. Liver Extract No. 343 is used in the treatment of pernicious anemia. Only preliminary observations have been made concerning its value in conditions other than pernicious anemia; apparently it is of value in some other types of anemia, but definitely seems to be of little or no value in many cases of ordinary secondary anemia. Liver Extract No. 343 is administered orally. Eli Lilly & Co., Indianapolis. (*Jour. A.M.A.*, February 4, 1928, p. 385.)

COMPOUND SYRUP OF CALCREOSE.—A syrup containing in 100 cc. calcreose solution (New and Nonofficial Remedies, 1927, p. 123) 33.3 cc.; alcohol, 5 cc.; extractives from wild cherry, 4 Gm. (20 grains per fluidounce); chloroform, 0.6 cc. (3 minims per fluidounce); peppermint and other aromatic drugs. Maltbie Chemical Co., Newark, N. J.

ANTERIOR PITUITARY DESICCATED—Lederle.—The anterior lobe of the pituitary gland of cattle, dried and powdered, without the addition of preservative or diluent. For a discussion of the actions, uses and dosage see Pituitary Gland, New and Nonofficial Remedies, 1927, p. 285. The product is marketed in the form of tablets containing 2 and 5 grains respectively. Lederle Antitoxin Laboratories, New York. (*Jour. A. M. A.*, February 11, 1928, p. 463.)

POSTERIOR PITUITARY DESICCATED—Lederle.—The posterior lobe of the pituitary gland of cattle, extracted with acetone, dried and powdered. For a discussion of the actions, uses and dosage see Pituitary Gland, New and Nonofficial Remedies, 1927, p. 285. The product is marketed in the form of tablets containing 1/10 grain. Lederle Antitoxin Laboratories, New York.

WHOLE PITUITARY DESICCATED—Lederle.—The pituitary gland of cattle, including the infundibulum and the anterior and posterior lobes, dried and powdered, without the addition of preservative or diluent. For a discussion of the actions, uses and dosage see Pituitary Gland, New and Nonofficial Remedies, 1927, p. 285. The product is marketed in the form of tablets containing 1 and 3 grains respectively. Lederle Antitoxin Laboratories, New York. (*Jour. A. M. A.*, February 18, 1928, p. 545.)

LOCAL ANESTHESIA IN REDUCTION OF FRACTURES OF LOWER FOREARM

Carl O. Rice, Minneapolis (*Journal A. M. A.*, June 2, 1928), asserts that anesthesia with procaine hydrochloride can be safely and satisfactorily used in the reduction of fractures of the lower end of the forearm. The technic can be carried out without additional equipment and without a detailed knowledge of anatomy. Relaxation of the muscles is satisfactory. The danger of infection is negligible. Procain anesthesia should not be used in the presence of infection, in a compound fracture, or when it has been used only a short time previously.

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ORIGINAL ARTICLES

THE DANGERS OF THE DIABETIC*¹

ELLIOTT P. JOSLIN, M.D.

BOSTON

I believe that the longer diabetes lasts the milder it tends to become. With a better adjusted diet, with insulin to help utilize it, with exercise and a new morale to develop body and soul the diabetic today is living twice as long as he did 10 years ago. There is, therefore, twice as much diabetes to treat. This is why I consider it pertinent to discuss with you today the dangers which beset the diabetic, how they may be avoided or treated if unhappily they appear, and then finally how untimely deaths may be prevented.

Hypoglycemia. Even before the discovery of insulin the blood sugar sometimes fell too low as a result of prolonged undernutrition. Three of my own cases died in consequence, and I suspect it was not so very uncommon. Hunger, weakness, trembling, mental instability, unconsciousness and convulsions developed just as in a typical insulin shock, although they came on more insidiously. Treatment, however, was almost as spectacular as at present and the patients revived with a few grams of sugar. It is fundamental in diabetic treatment today, particularly with insulin, to remember that lack of food favors hypoglycemia and the greater the lack and the longer the want of it, particularly of the carbohydrate portion, the more susceptible is the patient to hypoglycemic symptoms. But it is not alone the patient in undernutrition who lacks food; a fat man may have diarrhea and his blood sugar fall low because of poor absorption of the food he eats; a child may develop indigestion and despite a large meal in the stomach absorption may fail and hypoglycemia, not commonly pro-

duced by the routine dose of insulin, may appear. More obviously vomiting prevents utilization of the meal. Some patients may omit their usual amount of carbohydrate and not enough is formed from protein and fat to maintain the blood sugar at a normal level. Consideration of the diet, its content of carbohydrate, its absorption, the time since a meal are all important in the differential diagnosis between hypoglycemia and the diabetic coma of acidosis.

Exercise. Exercise produces extreme hypoglycemia even to the stage of unconsciousness and yet we have failed to profit from it in routine treatment of our diabetic cases. It acts so powerfully that it is a real danger. Fortunately the exercise of driving an automobile is not excessive and I have learned of no serious accidents among my patients, although escape has seemed miraculous. No insulin patient should drive an automobile long after a meal unless fortified by an additional lunch. Busy diabetic doctors must be cautious before driving home at noon and night. A punctured tire and the exercise it entails demands carbohydrate for protection. One of my patients says a game of golf is worth 5 units. The vagaries of the digestive system combined with unlooked for physical needs bar a diabetic locomotive engineer, who takes insulin, from a seat in his engine.

Perhaps the most unobtrusive cause of hypoglycemia is the improvement of the patient. It is by no means so easy to measure the insulin a diabetic produces in his pancreas as it is that you give him with a syringe. Unless one is alert, this is missed and the individual drifts along in a subdued, half debilitated state, a prey not only to hypoglycemia itself but, because of lowered resistance, to all kinds of infections and circulatory ills. I like to keep before my mind's eye several of my patients who have gained a tolerance for 100 grams carbohydrate this last year and to remember that a minister's wife, who showed six per cent. sugar last summer, is taking 250 grams carbohydrate this spring with insulin reduced

* Read before the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

1. From the New England Deaconess Hospital, Boston, Mass.

to 5 units. One cannot emphasize too strongly that the diabetic is far milder than we thought heretofore, or than he was at the beginning of his disease. Be blind to that conception of diabetes and you will have few cases who improve, because improvement depends upon increased ability to oxidize more and more carbohydrate and you may be the one who is depriving your patient of the opportunity to show what his regenerating pancreas can do.

Pathological hypoglycemia, so to speak, occurs as in Wilder's beautifully reported case of carcinoma of the islands of Langerhans with metastasis in the liver. Not many of us will have opportunities to observe such, nor I fear would we as scientifically report them. And though also recognizing the hypoglycemia in animals following extirpation of the liver we need not concern ourselves with it in man, because it does not exist.

Chronic hypoglycemia is more common than supposed. Children may show this day after day in the late morning and their languid appearance be attributed to the disease. Even a doctor may labor despite his hypoglycemia during weeks for several hours of each day and wonder why he is so depressed. A frail woman with advanced cerebral arteriosclerosis may simultaneously have an hypoglycemia and it is not easy to interpret the relative importance of the double condition, because of course they may be interrelated as they so often are in the sclerotic heart. A feeble old man with cancer may be under the influence of hypoglycemia more than under the influence of the more serious disease until it culminates after days in an unmistakable outbreak of disorientation and excitement. The chronic hypoglycemia must be sought.

Hypoglycemia is no respecter of persons. The headlines of a Boston newspaper disclose to me in their story of a strange case of amnesia in a medical student, one of my former patients, who had too carelessly balanced the three variables—food, exercise, and insulin. The police in Pittsburg beg a lady whose car runs into the curb to reveal her name. "Try, lady, to give me your name, I don't want to arrest you." The friends of a boy in Miami telephone frantically after midnight, because their diabetic friend is unconscious after an unusual and strenuous day of business in Florida's palmy era. And from New Brunswick, Canada, I am awakened because of a paralysis in a boy who had struggled home through a drifting snow storm. Two ministers owe the salvation of their reputations to the timely arrival of doctors who recognized hypoglycemia. Hypoglycemia, therefore, is a curse

as well as a blessing—a curse largely for environmental reasons, a blessing because it proves more carbohydrate is utilized than has been the rule. It is more dangerous than hyperglycemia and we must utilize it for the diabetic's good by increasing diet, but guard against the accidents to which it exposes them by its sudden onset or the low mental state it produces by its prolonged duration.

The most common hour for an insulin reaction is the late morning and consequently I always want to examine the level of the blood sugar at that time and particularly just before the patient leaves the hospital. But the patients must always be warned, must always carry a few lumps of sugar or an orange, and be instructed in their use almost as thoroughly as the doctor. Hypoglycemia is bound to occur if one but recollects the part which diet, exercise, endogenous insulin, to say nothing of exogenous insulin, play.

I have hinted in other places at the danger of insulin reactions in the old with their sclerotic hearts, but again I warn against a low blood sugar in the vessels of the muscles of the heart which need at the very least a normal supply.

The duration of symptoms of hypoglycemia in my patients has been transitory. In one boy hemiplegia lasted for a day or two bringing concern to the relatives. Few have developed convulsions and these have generally been children. An intelligent mother last week telephoned me that she gave her daughter $\frac{1}{4}$ cc. of 1:1000 adrenalin and thus brought her out of hypoglycemia in 5 or 10 minutes, so that she could take her orange juice. Education and intelligence certainly do count in the diabetic. Indeed, insulin helps the diabetic who treads a steady pace, but those diabetics who dance must pay the fiddler. If insulin is used thoughtlessly and in large doses convulsions must be expected.

Fortunately there are but few fatal cases of hypoglycemia. You can almost count those reported since the advent of insulin upon the fingers of one hand. The saving action of the sympathetic nervous system through the stimulation of the adrenals and the production of adrenalin rescues the patient.

Treatment is successful with glucose by mouth or rectum; it is rarely needed by vein and still more seldom is part of a cubic centimeter of 1:1000 adrenalin required. Recognition of the state is of major importance.

Diabetic acidosis. Diabetic coma has ceased to exist in the homes of the intelligent save with design, neglect, or prolonged carelessness. This is a safe statement and is borne out by the fact that no child among my 245 children

scattered throughout the United States and Canada died of diabetic coma in 12 months. Two, perhaps possibly more, have died in the subsequent 10 months, but they belong in the categories mentioned—the ignorant and careless diabetic.

It is stupid to die of diabetic coma and, if sought with suicidal intent, it is very stupid, because these deaths in coma are attended with pain. Teach your patients all about coma, educate them and they will avoid it. But don't blame them too much if they acquire it or they will be afraid to report if taken ill and try to treat themselves with large hourly doses of insulin, which they know were used in their previous attack in the hospital, and fatal hypoglycemia may result. If your patient has coma, to save his life you must stay with him or at least make hourly visits until he has completely recovered. If you cannot do this send him to the hospital and nine chances out of ten he will recover.

Drill your diabetic patients if sick from any cause to (1) telephone the doctor, (2) go to bed, (3) take an enema, (4) drink hot drinks—coffee, tea, oatmeal gruel, (5) secure nursing care, and (6) keep warm. Then when you have arrived *with insulin which you always carry in your bag*, and (1) have made the diagnosis, (2) you can give it—20 units or more every half hour or hour, (3) wash out the stomach, (4) give salt solution by rectum, under the skin, or by vein, (5) and protect the heart with $7\frac{1}{2}$ grains caffeine every two or three hours and possibly use ephedrin or adrenalin for a low blood pressure. *Minutes count! To treat a coma case successfully means the winning of a 100 yards dash with death for an opponent.*

All our children used to die of coma and two-thirds of all diabetics succumbed to it. Stop coma and all your diabetic children will live and two-thirds of your other cases until excusable causes of death carry them off or new methods of treatment hasten the arrest of their disease, which in default of other means time will bring about. A death from coma is a disgrace to the patient or the doctor or both, and insurance companies should more carefully investigate all such deaths.

The differential diagnosis between hypoglycemia and diabetic acidosis. A wrong conclusion as to the cause of the unconsciousness of a diabetic patient might lead to death. Eleanor's mother believed her commencing unconsciousness after a hard set of tennis was due to acidosis, because the urine contained sugar and acid, and she gave her 20 units of insulin when she was in hypoglycemic collapse.

A strange doctor was keen enough to catheterize the bladder; in this second specimen of urine he found sugar and acid absent, made the correct diagnosis and saved Eleanor for the frontispiece of my book as an example of a diabetic child with diabetes of 10 years' duration. Never fail to realize the first specimen of urine you obtain may have been manufactured hours ago.

The history of the case almost always allows a telephone diagnosis between hypoglycemia or coma. The patient with hypoglycemia has eaten too little, the one with acidosis has eaten too much. But analyze the correctness of the data and not be led astray by deficient absorption of food. Hypoglycemia is rare in acute infections, but acidosis is common because of increased metabolism of body protein and fat. The patient with hypoglycemia has taken too much insulin, the one with acidosis too little, but remember the insulin injected may have gone into scar tissue and not been absorbed. I have never known harm to occur from a patient making a mistake and injecting too much. The hypoglycemic patient is more mentally upset, disorientated and even violent as he becomes stuporous, in contrast to the acidotic case, who becomes sicker and sicker as he glides into coma before you hardly realize it has claimed him. Hypoglycemia comes on in minutes even if they do sometimes reach 60 or more, acidosis culminates in coma only after hours and days. The one is sudden, the other gradual. No suffering precedes hypoglycemia, but vomiting and pain in the epigastrium and abdomen generally in fully 80 per cent. of the cases usher in acidosis. In hypoglycemia one is never confused by the possibility of appendicitis, gallstones, pancreatitis, or the perforation of a duodenal ulcer, but in coma you are and not infrequently must operate. In fact it is always safer to do so although hourly observation for 3 or 4 successive hours may save surgical interference. The quiet respiration in hypoglycemia and the labored Kussmaul respiration in acidosis are the outstanding physical features. Analyses of blood and urine furnish precise information. With appropriate treatment of hypoglycemia, recovery is swift, but is slow in acidosis, but its progress is easily registered. With either condition, temporary improvement must be followed up by continued observation, at least for a day, or serious relapses may occur.

Gangrene and the danger of prematurely growing old. On Monday morning of this week at the combined medical and surgical diabetic visit at the Deaconess Hospital, to which on any Monday morning at 8 o'clock

sharp you are all invited, there were 14 patients with gangrene or osteomyelitis of the lower extremity, 2 patients who had been operated upon for cataract, 1 for carbuncle, 1 for gallstones, 1 for fistula in ano, but oddly enough none for hyperthyroidism with diabetes or appendicitis. The other half of the cases were just plain diabetics going to school, save for three who had coronary thromboses, one hemiplegia, and another with cancer of the pancreas, and one 84 years old. (Your invitation forced me to miss seeing my oldest diabetic, 88 years young, who came to Boston Tuesday.) There is no question, therefore, but that gangrene claims first place and this will hold even though the gangrene patient remains at least three times as long in the hospital as the ordinary diabetic. This latter fact accentuates the diabetic gangrene problem, because each gangrene patient deprives at least three other diabetics, whose lives are more productive, of a bed and a diabetic education. Diabetic gangrene is an expensive disease and neither hospital nor doctor can afford to treat it, and as for the patient even though he does not pay full hospital or medical fees it saps his last cent. What shall we do?

Diabetic gangrene and osteomyelitis must be prevented. This seemed impossible until we learned that 80 per cent. of a group of 55 gangrene patients had never before been under Deaconess Hospital care. To reduce this 20 per cent. of the cases which represented our old clientele to still lower limits, several years ago we began giving systematic instruction to all diabetics about the care of the feet and of the dangers attendant upon its neglect; two years ago we established our Beauty Parlor for Diabetic Feet; and two months ago took a third step, namely, the introduction of a chiropodist to the diabetic staff, concerned with diabetic feet, already consisting of a surgeon, orthopedist, dermatologist, physical therapist, and nurses trained in diabetic surgery and the use of the ultraviolet ray, and a few doctors. Already the chiropodist has proved his worth. With his modern instruments and machinery he saves a great deal of the surgeon's time. These measures, excellent as they are, affect only one-fifth of the prospective gangrene patients; they do not touch the 80 per cent. with whom the hospital is literally stung. Now for the prevention of gangrene in the 80 per cent.

When I wrote "Keep your feet as clean as your face," a few doctors and patients read it, but when I said it over the radio and added "Diabetics should wash their feet every night before they say their prayers,"

it really made an impression and Boston diabetics have smelled sweeter ever since. The diabetic public must be trained to avoid gangrene. Diabetic girls over 50 are too old to cross their legs or to wear round garters and thus shut off the circulation and get numb toes, and the same holds true of their diabetic brothers. Proper care of the feet will prevent nearly all cases of gangrene. It is for the interest of the patient and the physician to spread the gospel. We have one chiropodist in our diabetic clinic, but he is an officer in the State Society, and through him we hope to gain the support of all chiropodists in the prevention of gangrene.

Easter morning I spent at the hospital and what do you suppose I found? That the average duration of the diabetes in the living patients then under treatment had already exceeded by a year the average duration of the fatal cases a decade ago. By the old standards my diabetics who were still very much alive had been dead a year. And I could not help thinking how this progress would have pleased Naunyn who fortunately lived long enough to see insulin established. But with the regret at the death of this diabetic prophet, who like Elijah of old went out "and stood at the entering in of the cave and listened to the still small voice" of Science, I remember Elijah was told that there yet remained 7000 true to the cause. And some of these 7000 I see here today and the rest of us can all take heart that with their aid the future of the diabetic will steadily become brighter and his dangers vanish.

81 Bay State Road.

THE DIAGNOSIS OF EARLY CLINICAL TUBERCULOSIS BY THE GENERAL PRACTITIONER*

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While great progress has been made in the reduction of the mortality from tuberculosis in the past quarter of a century, yet it still ranks as one of the greatest agencies for destroying human life and so demands the earnest attention of all practitioners of medicine.

The very fact that the mortality has been reduced nearly sixty per cent. in the past twenty-five years calls for still greater interest on the part of the profession than has ever yet been manifested. For now we can truthfully say

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that it is a preventable and curable disease. But regardless of the progress made, advanced tuberculosis still remains a menace to the individual who has it and through him to the race.

Early tuberculosis can nearly always be healed with restoration of the patient to an efficiency little if any short of normal. Even if one is suffering from extensive advanced lesions, he still may overcome the disease; but he maintains his health thereafter only by living carefully and always bearing in mind that he has had a serious infection which may again be stirred to activity through indiscretion or stress.

WHEN SUSPECT TUBERCULOSIS

The ravages of tuberculosis can best be stayed by eliciting the earnest cooperation of general medical men. Specialists may make the diagnosis with greater accuracy because of their attention being constantly held to this one subject, but specialists do not see the cases first. The man who sees the disease earliest is the family physician, so upon him rests the burden of early diagnosis. From the progress that has been made in diagnosing tuberculosis in the first quarter of this century we must say that he has accepted the responsibility and is acquitting himself well. Not that he cannot do better. He can and he will. But for encouragement he already has to his credit thousands of lives which, without his interest and aid, would have gone the same way that thousands of others have gone yearly throughout the ages.

The most important thing for the physician to know is when to suspect the presence of active tuberculosis. He can get his mind in the most advantageous mood for aiding in the fight against tuberculosis, first, by keeping the disease always in mind and being thoroughly imbued with its hopefulness if diagnosed and treated early, and its seriousness if neglected; then by realizing that any one may have it, that no one is too old or too young, too fat or too thin, too strong or too weak, to have tuberculosis; and, finally, by keeping in mind the danger signs that indicate its presence in the early stage of activity. The disease comes on in many different ways, but usually slowly at first, and more rapidly after infection has been well established. It may best be suspected from the symptoms of which the patient complains and may often be diagnosed by a careful analysis of these alone.

For those who are not accustomed to making frequent chest examinations, it should be known that a fairly accurate opinion may be formed in most cases of active tuberculosis by

other methods of studying the patient. Of these the most important is the clinical history. By carefully analyzing the clinical history alone a very large majority of frank cases of early active tuberculosis may be diagnosed.

WHAT WILL CLINICAL HISTORY TELL?

The clinical history tells what the patient wants the physician to know and what the physician wants to know; that is, it tells the various ways in which the patient finds himself departing from normal health. It is through eliciting these facts and analyzing them that the physician must decide whether he is to suspect a lung lesion or one of the heart or kidney, some nerve or brain disease, or a metabolic disorder. The clinical history, then, is the foundation on which the diagnostic edifice is to be built. Needless to say it should be adequate for its purpose; so too much care cannot be taken in obtaining it.

Symptoms and signs of disease consist of many different entities which on a casual glance, if we consider them individually, may seem to be unrelated; but group them together according to some well chosen plan and they become simple and appear in definite relationship to each other.

If we were able to enumerate all the symptoms that could be produced by tuberculosis of the lung they would make a very long list; for while pulmonary tuberculosis has its chief seat of disease in the lung, the entire organism is ill. Every organ—yes, every cell of the body—receives harmful stimuli during the course of the disease which have a tendency to disturb its function; but there are certain major disturbances of function which make up the chief complaints.

If one will stop to analyze these complaints or symptoms he will see that they naturally fall into few groups; in fact, I have suggested that all of the commonly elicited symptoms of pulmonary tuberculosis are produced in one of three ways. They are general, being due either to toxins or to the effects of the disease upon the body expressed through the nerves, endocrines or cells themselves; or due to reflex stimulation of organs and tissues through impulses which arise in the lung and are carried centralward over the sympathetic and vagus nerves to be transmitted to other neurons which connect with them in the central nervous system; or, they are local effects produced by the disease process itself in the lung or overlying pleura.

Thus, from an etiologic standpoint, one may place all the important symptoms of pulmonary tuberculosis in the following groups:

Table I. *Etiological Classification of symptoms of Pulmonary Tuberculosis*

GROUP I	GROUP II	GROUP III
<i>Symptoms Due to Toxemia and Other Causes Acting Generally</i>	<i>Symptoms Due to Reflex Cause</i>	<i>Symptoms Due to the Tuberculous Process Per Se</i>
Malaise	Hoarseness	Frequent and protracted colds (tuberculous bronchitis)
Lack of endurance	Tickling in larynx	Spitting of blood
Loss of strength	Cough	Pleurisy (tuberculosis of pleura)
Nerve instability	Digestive disturbances (hypermotility and hypersecretion) which may result in loss of weight	Sputum
Digestive disturbances (hypomotility and hyposecretion)	Circulatory disturbances	
Metabolic disturbances resulting in loss of weight	Chest and shoulder pains	
Increased pulse rate	Flushing of face	
Night sweats	Spasm of muscles of shoulder girdle.	
Temperature	Diminished motion of affected side.	
Blood changes		

The important thing about this grouping is that by showing the cause of symptoms and tracing their relationship to each other, the diagnosis at once begins to localize upon the lung. The classification and analysis of symptoms according to this grouping will make the diagnosis evident in nearly every frank case of pulmonary tuberculosis. Only in the vague borderline cases will there still be doubt.

It readily can be seen that the symptoms which have the least bearing upon the diagnosis of active pulmonary tuberculosis are those of Group I, those due to toxemia or general nerve, endocrine and cellular imbalance. The reason these have so little diagnostic value is because the same symptoms appear no matter what the toxemia, or no matter what the nerve or endocrine imbalance. When taken in conjunction with other symptoms belonging to Groups II or III, however, they begin to assume real diagnostic importance; and when one has fastened the disease from which the patient is suffering upon the lung, then the general symptoms become very important.

The diagnostic importance of the symptoms belonging to Group II rests upon the fact that the tissues or organs which are disturbed in their function are closely associated with the lung through nerve connection. There is more individuality in the symptoms of this Group than in those of Group I; in fact, from the standpoint of vegetative neurology it will readily be seen that most of the symptoms of this group assume localizing importance.

The diagnostic prominence given to symptoms of Group III is based on the fact that they are produced locally by the tuberculous process itself. They become especially significant in diagnosis, however, when they are ac-

companied by symptoms belonging to Groups I and II, as will appear later in this discussion.

EVALUATION OF SYMPTOMS

It is impossible to place a definite value on individual symptoms, because different individuals vary so much in their reaction toward disease, and infections vary so much quantitatively and qualitatively. Neither is it possible to demand that any definite group of symptoms be present before making a diagnosis. Patients differ, the disease process differs, and the examiners differ in their interpretation. Symptoms in one patient are not present in another; yet if active tuberculosis is present there will nearly always be a combination of symptoms belonging to at least two of the groups above mentioned, which when taken together will direct the examiner's attention to pulmonary tuberculosis and make the diagnosis fairly certain. For example: fatigue and loss of weight with cough and expectoration; fatigue and loss of strength with hemoptysis; expectoration with cough and toxic symptoms; or pleurisy with cough and temperature.

There are certain symptoms which require special discussion in their relation to the diagnosis of early active tuberculosis, because of their particular import.

Among the symptoms of Group I, *malaise*, *loss of weight*, and *temperature* are extremely important and require some elaboration.

Malaise. One of the very important symptoms of active tuberculosis is a gradually developing tiredness—one that seems not to be accounted for by anything the patient is doing, and further may at times seem out of proportion to other signs of disease that may be present. One must not forget, however, that

this symptom at times may not be noticed. Some individuals seem to feel the effects of toxins very little.

The difficulty in interpreting malaise correctly is due to the fact that tuberculosis often becomes active during or following periods of stress. The patient may have been working unusually hard; or may have had business or domestic worries, or financial loss; or may have previously suffered from some debilitating disease; or the tuberculosis may affect one who, when at best, possesses an unstable nerve, psychical or endocrine balance. Easy tiring is almost a constant symptom in all these conditions, and there is no way to differentiate the malaise caused by the tuberculosis from that produced by the other causes.

While malaise alone has no special significance, when taken in connection with the loss of a few pounds in weight, a slight elevation of temperature or a cough combined with any of the symptoms in Group III it points strongly to an active tuberculosis.

Loss of weight. During health a fairly regular weight is maintained by most people, with variations of only a pound or two in the course of weeks. If there be a loss of from five to ten pounds within a few weeks' time, it should be considered as having some serious nutritional change as a basis, such as is so frequently produced by the toxins of tuberculosis. If malaise, temperature and cough, or any of the symptoms of Group III, accompany it, tuberculosis should be most strongly suspected.

Temperature. A rise in temperature of a few tenths of a degree for which no other cause could be found was formerly considered as being a sufficient basis for diagnosing tuberculosis. It is known today, however, that other infections, psychical instability, increased metabolism caused by increased nerve stimulation or increased hormone action, or such nerve action as interferes with vasodilatation of the skin capillaries and the throwing off of heat, will all cause elevations of a few tenths of a degree in the registered temperature. The nervous element should be evident to any one who studies the effect of a visit to the doctor's office on the temperature or blood pressure of a nervous or psychical patient.

It is important to know that individuals may have elevations of from 99 to 99.5 without having a toxemia as the cause. Women, without infection, frequently run a temperature of 99.5 in connection with the menstrual period. It usually appears before the period as long as fourteen days. It may appear during the flow; and, in a few, following it. This knowledge is of great importance in estimating the significance of a patient's temperature curve.

Slight elevation of temperature of itself is

not significant, but with malaise or loss of weight or cough or in connection with the symptoms of Group III, it becomes of great importance.

In Group II the only subjective symptoms of diagnostic import are laryngeal irritation as shown in hoarseness and a tendency to cough, cough itself, and flushing of the face. The objective symptoms in this group, however, particularly the localized reflex atrophies and muscle spasms, and the limitation of motion caused by the increased muscle tension, when once appreciated will assume very important diagnostic worth, because of the fact that the nerve connection between the tissues involved and the lung is definite and the reflex symptoms follow well established physiologic laws.

Hoarseness and throat irritation. If one inquires carefully into the history, the patient will quite often complain of slight hoarseness and throat irritation. The reflex relationship between the pulmonary branches of the vagus and the laryngeal branches of the same nerve is quite close. So, inflammation in the lung readily sends impulses to the larynx over the motor nerves which interfere with its normal action, and over the sensory nerve which cause irritation.

Cough is a part of the same reflex; or we might better say that hoarseness and laryngeal irritation are a part of the cough reflex. Cough itself, however, is produced by a widespread muscular effort, in which practically all the ordinary respiratory muscles are brought into play.

Hoarseness and cough may be caused by impulses arising in other parts of the respiratory tract, such as the nose, tonsils, sinuses, larynx itself, and by inflammation of the bronchi. They have little diagnostic value except as they are associated with symptoms of Groups I and III. Cough with loss of weight and undue fatigue is very suggestive; so is it when accompanied by hemoptysis or pleurisy.

Flushing of the face. Flushing of the face is a reflex through the vagus and 5th cranial nerve. It rarely manifests itself, however, unless the infiltration in the lung is fairly extensive and the disease active. This symptom in a minor degree is at times caused by disturbances in the gastrointestinal canal; but as a rule the impulse which causes it has its origin in the lung; and malaise, cough and expectoration at least are nearly always present when it manifests itself.

The symptoms in Group III are individually the most important of all the symptoms of active tuberculosis; yet each of these symptoms needs to be discussed separately so that its true significance in the diagnosis of tuberculosis may appear.

Hemoptysis. We formerly stated that spitting blood, unless it could be shown to be due to a heart lesion or bleeding gums, could be quite safely ascribed to a tuberculous process in the lung. Now we are compelled to modify this opinion in many instances. Since the pandemic of influenza in 1918 we have had many infections of the respiratory tract which hang on and pass through a subacute and even chronic stage that now and then cause hemoptyses in no wise different from the hemoptyses of tuberculous origin. Blood-spitting may also appear in the course of new growths in the lung, in bronchiectasis and lung abscess. Even quite large hemorrhages may appear every now and then in the course of these non-tuberculous infections.

So we are now forced to revise our ideas. Tuberculosis is the cause of by far the great majority, probably about ninety per cent., of instances of blood-spitting, yet it is important to remember the possibility of other causes and require the presence of other symptoms before making the diagnosis. Any hemoptysis of one-half to a dram of bright blood should be considered as being of a tuberculous origin unless some other cause is definitely found.

Blood-spitting may show as streaks or specks which nearly always can be disregarded; or as pinkish saliva or sputum, which is rarely from the lung in early tuberculous lesions; or as a small quantity—a half dram or more—of bright blood, or several mouthfuls of it, which is the usual form of hemoptysis in early tuberculosis.

Temperature would have no diagnostic significance in the group of nontuberculous cases; neither would cough. Malaise and loss of weight might or might not be of value. In some cases of hemoptysis one will be unable to settle definitely on the underlying pathology without using all the diagnostic methods that we are able to command.

Sputum. Sputum is of the greatest importance in diagnosis. If bacilli are found that alone is sufficient. This is the only single symptom on which alone a diagnosis can positively be made. Negative sputum, however, has no definite diagnostic significance, yet a small amount of sputum coming on when a patient is below par or persisting for a time after an acute bronchitis should always be carefully considered as possibly being due to a tuberculosis. Tuberculosis may be present for a long period without bacilli appearing in the sputum; or bacilli may appear so seldom and in such small numbers that they may be overlooked in the routine method of examination.

Sputum accompanying early tuberculosis may be due to irritation of the mucous glands in the bronchi, under which circumstances it

must not be expected to show bacilli; or, it may be due to a necrosed tuberculous focus which usually sheds bacilli.

There is much to be said about the examination of sputum. In the first place one must not rely on the statement of the patient, "that he raises nothing." I always give the patient a bottle and tell him to bring for examination everything he raises for twenty-four or forty-eight hours, no matter where he thinks it comes from. If the sputum is of small amount, for accuracy, it should always be subjected to concentration methods of examination. It is surprising how often bacilli will be found with these methods when they fail to be found by the ordinary smear method.

Small amounts of sputum accompanied by toxic symptoms and cough are very suspicious of tuberculosis. So are small amounts of sputum accompanied by cough and loss of weight; or loss of weight and elevation of temperature; or malaise and loss of weight.

Pleurisy. Pleurisy, whether dry or accompanied by effusion, is most often due to a tuberculous process. Pleurisy with effusion, without another known cause, has long been considered as being due to tuberculosis. The same diagnostic value should be attached to definite dry pleurisy. Pleurisy at the base with a distinct rub, unattended by pneumonia or influenza, is nearly always of tuberculous origin. Such cases usually give considerable pain and are easily recognized. Pleurisies, however, are very commonly found covering the apices of the lung, accompanying tuberculous processes in the underlying pulmonary tissue. Such pleurisies do not produce a recognizable rub because of the limited apical motion. Neither do they produce the sharp pain of pleurisy at the base. So they are overlooked. They produce an uncomfortable distress rather than pain.

Pleurisy may or may not be associated with an elevation of temperature, but when effusion is taking place temperature is commonly present. There is nearly always some of the toxic or reflex group of symptoms accompanying severe dry pleurisy or pleurisy with effusion, and when all are put together they leave little doubt as to the diagnosis.

Patients are prone to call many different pains pleurisy. They may be right in many of them as to origin, but they often err in considering them as signs of an active inflammation. When pain has once been established in a chronic inflammatory process, such as pleuritis, the nerve path through which the pain is expressed attains a state of decreased inhibition in which sensations that would not be felt under ordinary conditions are transmitted to

the higher brain centers, resulting in pain under many circumstances: such as on tiring; if the patient worries or is depressed and discouraged; at the menstrual time; and with changes in weather. It is difficult at times to assign the proper significance to these complaints.

Frequent and protracted colds. Tuberculosis at times in its early stages, takes the form of repeated attacks of bronchitis. The patient usually considers that each attack is a cold. The symptoms in such cases are caused by a metastatic extension of the disease usually caused by comparatively small numbers of bacilli yet sufficient to produce quite an allergic reaction.

Inasmuch as these are real definite reactions following the inoculation of bacilli in tissues which have been sensitized by previous infections, symptoms belonging to each of the three etiological groups usually manifest themselves. The patient usually has a slight elevation of temperature of four or five days' duration, is toxic, has headache, suffers from malaise, loses appetite and some weight. He often thinks he is bilious. He usually coughs and may or may not expectorate. The toxic symptoms with temperature may clear up within four or five days, or may hang on for several weeks. Even if the toxic symptoms subside after a few days, cough and expectoration, if present, usually continue for several days or weeks longer. The sputum during and immediately following these attacks may show the presence of bacilli, even though they disappear later. An X-ray at this time may show a flakiness about the metastatic focus which will pass away in a few days or weeks. Auscultation may reveal rales which may also disappear as soon as the acuteness of the allergic reaction has passed away.

IF SYMPTOMS ARE SUSPICIOUS WHAT OTHER
SIMPLE MEASURES WILL LEAD TO A
DEFINITE DIAGNOSIS?

It will be seen from this discussion of the symptoms of active tuberculosis that if physicians who are not specialists in diseases of the chest will learn to think of symptoms from the standpoint of their etiology and learn to put an interpretation upon them as they appear in combination, they can nearly always arrive at a probable diagnosis. If in doubt, or if they wish to make the diagnosis more certain, there are other measures at their command which will aid.

The physical examination is of great or little value according to one's experience in its use. I wish to emphasize strongly that one

who is not in the habit of frequently examining chests should never turn down a probable diagnosis based on a carefully taken and analyzed clinical history because he fails to find signs on auscultation. He had better stick to the "probable diagnosis" based on the history until he can have it proved or disproved by employing other methods himself, or by consultation.

I would especially urge the necessity of examining patients with bare chest and without restriction of the waist line. Every examiner should learn to look at chests understandingly. They tell much. If any asymmetry in the skin or subcutaneous tissue or muscle mass is present, it may be important and have diagnostic bearing. Diagnoses of underlying pathology, and whether the process is active or not, may be determined by correctly reading the motor and trophic reflexes which are expressed in the tissues covering the chest. However, regardless of their value, until these are taught to students the same as auscultation and percussion are taught, they will remain a closed book to most examiners; yet some of them are so simple that any one with a little practice can use them.

At this time I desire to call attention to two reflexes which I believe any one may learn to detect, the *atrophy of the soft tissues* caused by trophic reflexes from the lung, and *diminished motion* of the chest wall resulting from a motor reflex from the lung, analogous to the motor reflex in the abdominal muscles in cases of appendicitis, cholecystitis and ulcer of the stomach. The diagnostic value of these depends on the fact that they always affect the same tissues, and when once learned immediately suggested that the impulse causing them arises in the lung.

Atrophy of soft tissues over chest. Often, on the first glance at a chest, one sees a lessening of tissue above the second rib anteriorly and the spine of the scapula posteriorly. Sometimes this is considered and spoken of as contraction of the apex. But careful inspection with or even without palpation will reveal that there is a lessening in the subcutaneous tissue. It is thinner than below the second rib, or if it is confined to one side it is thinner than on the other side. Palpation either by feeling with the tips of the fingers or by picking up the tissues between the thumb and fingers will aid the eye very much in detecting this atrophy. This is an atrophy produced reflexly by some chronic inflammation in the lung, usually a tuberculosis.

Sometimes the atrophy extends down below the second rib and spine of the scapula. This is evidence of not only a chronic pulmonary

involvement but also of an involvement of the underlying pleura as well.

Here then we have very valuable information stamped on the patient's chest, if only we see it. Now, when we recognize that much of our adult tuberculosis is caused by metastases from former foci, and find the metastases most often in the same lung that was formerly the seat of infection; and further recognize that the larger the previous infection the greater the danger of future metastases; these reflex atrophies, particularly if they are well marked, give us an immediate clue in diagnosis if the individual being examined complains of symptoms suggestive of a pulmonary tuberculosis.

Diminished motion of the side. Diminished activity of an inflamed organ or part has long been recognized as a part of nature's protecting mechanism. This defensive reflex shows itself very early in cases of tuberculosis of the lung. When tuberculous infection takes place in pulmonary tissue it at once irritates the nerve endings in the diseased area. Impulses are carried to the cord and transmitted to motor neurons that supply certain muscles whose contraction limits chest movement. If the lesion is confined to one side, as it often is at first, then this defensive reflex has great diagnostic significance and is comparatively easy of detection; if both sides are involved, it is more difficult to determine.

The muscles which are particularly involved in this reflex action are the muscles which take their innervation from the cervical segments of the cord. These are particularly the muscles of the shoulder girdle and the crura and central tendon of the diaphragm. By shortening the muscles of the shoulder group the upper portion of the thorax is fixed, and by shortening the crura of the diaphragm the lower portion is fixed. Together, they limit the motion of the side involved, or disturb the normal respiratory rhythm when both sides are involved. The increased tension of the neck and shoulder muscles may be felt by palpation which, together with the limited motion, furnishes most dependable evidence of active inflammation in the lung.

The importance of this muscle reflex in diminishing the movement of the thorax can be understood by realizing that the muscles particularly responsible for this limiting of motion are the scaleni above, running from the cervical vertebra to the first and second ribs, and the crura and central tendon of the diaphragm below. The movement of the diaphragm is, under normal conditions, the most important agency in respiratory movement; and the effect of a steady contraction of the large

crural muscle below, especially when the upper portion of the same side of the chest is fixed by the apical muscles, particularly the scaleni, is self-evident.

There are other things besides a motor reflex from the lung that will cause lessened motion, such as pleural adhesions and fibrosis in the lung, which must be considered; but one of the commonest causes in early clinical tuberculosis is the pulmonary inflammation.

Limited motion may be detected by inspection, but I prefer to seat myself before the patient and, placing my hands lightly over the lower portion of the chest wall in the axillary region, observe and palpate at the same time; then repeat the same over the upper surfaces of the chest both front and back.

The diagnosis of a pulmonary tuberculosis is strengthened very much by finding diminished motion present along with suspicious symptoms of other groups.

When both sides are the seat of active tuberculosis the diminution of motion is found on both sides, but usually predominating on one side. This causes some confusion and requires more skill in assigning to it its proper value.

Rales. Rales heard on coughing or on inspiration following cough are valuable as indicating that inflammation is or has been present in the underlying lung, or pleura, or both. It requires considerable experience to properly interpret them and distinguish those in the lung from those in the pleura. Their presence, however, no matter what their origin, gives evidence that the underlying structures are or have been the seat of inflammation. It is necessary to be on the lookout for rales in the tissues surrounding the hilum and toward the base as well as apex, for we find a great deal of tuberculosis starting in these areas of the lung.

X-ray. The X-ray is assuming a very important role in the diagnosis of chest diseases today. Many errors are being committed because of placing too much confidence in a film regardless of its quality. I see many films which are overshot and underdeveloped, or overshot alone, in which the rays pass through without causing shadows even though sufficient disease to cause shadows be present. The best plate is a moderately soft one, developed carefully to bring out detail. Such a plate will aid greatly in diagnosis. A poor plate shows no more than a poor physical examination and the value of the two are on a par. Soft flaky shadows are most significant of active tuberculosis. They may be in any part of the lung but are most common above the third rib, not

necessarily at the apex. They are often found near the hilum running out toward either the apex or base. Flakiness is present only when an area of softening or an allergic reaction is present. When this has passed away, as it will after a few weeks following a metastasis or reinoculation of mild degree, the X-ray may fail to show the disease.

SUMMARY

1. By carefully taking the clinical history, and classifying the symptoms according to their etiology, and assigning to those present their combined value, one can make a probable diagnosis in nearly all frank cases of early clinical tuberculosis.

2. The sputum should always be examined, no matter where the patient thinks it comes from. A twenty-four or forty-eight hour specimen should be examined in all cases where the amount raised is small. Examining by one of the methods which concentrate the bacilli will show their presence in many instances where they are not found by the smear method.

3. Areas of atrophy of the soft tissues over the thorax should be looked for because they tell of previous inflammation in the underlying lung and pleura. Atrophy of skin and subcutaneous tissues above the second rib anteriorly and the spine of the scapula posteriorly suggests previous or chronic inflammation in the underlying lung; atrophy below these limits suggests previous or chronic inflammation of the underlying pleura.

4. Diminished motion of the chest wall on one side is present in all cases of unilateral active clinical tuberculosis. Other common causes of diminished motion are pleural adhesions and fibrosis in the underlying lung. Where both lungs are involved, interference with motion is found on both sides but is more difficult to interpret. Diminished motion in addition to suspicious symptoms increases the probability of active disease within the lung.

5. The X-ray is a great aid to diagnosis. Many plates on which an opinion is given are so poor that they are not only valueless but harmful. A moderately soft plate, carefully developed, is most dependable. A negative film does not imply the absence of disease.

6. Rales may indicate the presence of active disease in the underlying lung or pleura, or of a chronic or obsolete process. They must be interpreted in conjunction with other symptoms. Those who examine chests for early tuberculosis infrequently should disregard all rales except those which are of a definitely moist nature.

Pottenger Sanatorium.

SURGICAL PROBLEMS IN THE AGED

WILLIAM P. GLENNON, M.D.

ST. LOUIS

In presenting this paper I make no claims to any new or startling idea in the treatment of surgical conditions met with in old people, and I purpose only to emphasize some of the dangers and pitfalls that may be encountered and at the same time to make a few suggestions that may tend to reduce somewhat our mortality in those rather poor surgical risks. While it is generally accepted that old people are per se poor surgical risks, I am inclined to think that at least some of these deaths in old people are due not directly to the operation but rather to the incidental conditions and routine regulations with which we have become accustomed to surround our surgical cases generally.

Major surgical procedures on elderly patients present distinct medicosurgical problems that frequently tax the ingenuity and judgment of both internist and surgeon. I say medicosurgical problems because in the treatment of a surgical disease in an old individual, the individual himself as a whole must be given the first consideration, the disease secondary only. When called to operate on the old man or the old woman a knowledge of the dangers ahead must be ever in mind and safeguarded against if we are to expect satisfactory results. The margin of safety in old people is definitely limited and it behooves the surgeon and physician to stand guard lest tragedy ensue.

WHAT IS OLD AGE?

Old age may be defined as that period of life in which degenerative changes that set in after maturity become apparent. This does not correspond to any definite term of years, because some individuals are young at seventy, while others, because of disease, habits of life or inherited defects, are burned out at a comparatively early age. Osler says, "Age is a vascular question and depends in the first place upon the quality of the vital rubber we inherit and secondly upon the wear and tear to which we subject it." In other words we are as old as our arteries. Moore, on the other hand, considers that, from a surgical standpoint at least, a man is as old as his kidneys. Normally the first signs of old age begin about the fiftieth year, the elasticity of the tissues giving way to inelasticity with progressive impairment of the physiological function of practically every organ and structure in the body. Most authors agree that old age is a physiological entity and not a disease and is normal in all forms of animal and vegetable life.

When confronted with disease or injury in the

aged patient due consideration and allowance, therefore, must be given for these various anatomical and physiological impairments. It is well known that diseases and injuries that would be considered trivial in the young or middle aged, not infrequently are a cause of much concern to the physician in the elderly patient. A slight infection, an acute cold or simple fracture may be the beginning of the end in the old man. Owing to the inelasticity of the whole mechanism there is no longer a give and take, so that anything that disturbs the nicely balanced interrelationship of the various organ functions may prove fatal.

A sudden radical change in the mode of life of the elderly individual, such as the old man retiring from a business which he has conducted over a long period, or the loss of a life companion, often leads but to the grave. On the other hand experience has shown that wounds heal about as well in the elderly patient as in the young and without any more tendency to infection; and that elderly patients are less sensitive to pain, due partly to the relaxation and diminished elasticity of all the tissues and partly to the less marked psychic disturbances shown preceding, during and following surgical interference.

TYPE OF PATIENT ON WHICH TO OPERATE

How are we to decide when an operation is justifiable, indicated, and safe in the elderly patient? Of course if the disease is of such a nature that the only possible chance of recovery is operative procedure then we have no choice. However, we frequently meet elderly patients whose disease may be a serious discomfort or handicap or is producing a condition of quasi invalidism, though not necessarily endangering the patient's life,—such for example as herniae, hemorrhoids, proidentia, varicose veins with ulcer, chronic gallbladder diseases,—diseases that are potentially dangerous and where no question would arise as to the advisability of operation if the patient were younger. Our decision as to when to operate on the elderly patient must depend to a great extent upon the experience, judgment and technical skill of the operator, together with (and this is all important), the advice given by a good internist who has studied the individual patient. The latter condition cannot be over-emphasized and no elderly patient should be subjected to major surgical interference (except of course in emergencies) without a complete study of the various organ functions, as well as a survey of the patient generally, including his habits, customs, tastes, etc. The ordinary hospital routine with fixed hours to retire, the early morning bath, temperature taking, etc., are

often irritating and distressing to the patient and particularly to the elderly patient. This routine could well be dispensed with or modified in the case of the old individual.

PRELIMINARY PREPARATION

Simplicity in the immediate preliminary surgical preparation should be the rule in the old patient. Further than forced fluids (including orange juice and whatever other foods the patient is accustomed to take) on the day or two preceding the operation, the patient be left severely alone. I believe, if the patient has normal bowel actions, no preliminary cathartics or even enemata should be prescribed, but allow the patient to carry on as nearly as possible his accustomed daily routine right up to the hour of operation. The elderly patient has usually regulated his day by day life in detail, with fixed hours for sleep, for exercise, reading, meals, special hours for gossip with friends, etc., and the elimination of any one of these fixed habits and customs may disturb the whole mental and physical system. So in the preliminary preparation and during convalescence we must respect, in so far as we can, these life long habits and customs.

ABUSE OF MORPHIN

The choice of anesthetic and method of administration and particularly the narcotic drugs used in association therewith, are to my mind the most important considerations in the surgery in old people; I believe there are more deaths in old people directly and indirectly due to the indiscriminate use of narcotics and improper choice of anesthetics than from any one other cause. If we consider the action of morphin on the general system we will better understand why this valuable drug must be administered with the utmost caution in old people. You will pardon me if I quote for you a few paragraphs from "Butler's Text Book of Materia Medica." "The action of opium on metabolism is very marked. It locks it up. Lactic acid occurs in the blood from defective oxydization. It diminishes internal cell oxydization; by limiting muscular activity it lessens muscular metabolism; and by diminishing the exertions of the respiratory muscles limits respiratory oxydation and CO₂ formation." On the digestive system the prominent action is upon the secretions checking that from the salivary glands, largely diminishing those from the stomach and reducing the bile and pancreatic juices secreted. In fact every secretion from the body is lessened except perspiration, the cause being the depressing influence of the drug on the secreting centers in the medulla.

It may be added that the peristaltic move-

ments of the digestive apparatus are reduced, which together with the diminished secretions impair digestion and produce constipation. Morphin at least seriously disturbs the balance of power between the various organs, particularly in those old individuals whose equilibrium was none too staple to begin with; and so I have come to the conclusion that, when at all possible, this drug should be dispensed with in such cases.

CHOICE OF ANESTHETICS

The anesthetic of choice in elderly patients is undoubtedly novocain infiltration. This anesthetic causes fewer postoperative complications than any other anesthetic and when practical should be used exclusively. With experience and improved technic in administration this anesthetic is being used more extensively every day. Its success depends upon the cooperation of the patient, the gentle handling of the tissues, a good knowledge of anatomy and an abundance of patience on the part of the operator.

However, there are large groups of operations, such as those in the presence or neighborhood of acute inflammation, where a local anesthetic such as novocain infiltration is both a painful and dangerous procedure; as you know, infiltrating acutely inflamed tissues is not appreciated by a patient, and the danger of spreading the infection is always present. Other groups of major surgical procedures are altogether impossible to carry out painlessly under novocain infiltration alone; and while they are sometimes attempted under so-called local anesthesia it is only with the aid of rather large doses of morphin or morphin-hyoscine that we are able to carry out those procedures with any degree of comfort to the patient; and an operation carried out by this combination of morphin-hyoscine-novocain would hardly be called a local anesthetic.

In a rather limited experience that I have had with spinal or subarachnoid anesthesia in patients of sixty years or over, I found this the most satisfactory anesthetic I have ever used; and I am of the opinion that this method of producing anesthesia has a very definite field of usefulness in operations below the umbilicus. Those elderly patients seem to be particularly adapted for this anesthetic, and I believe for the satisfactory execution of many major surgical conditions located on the lower extremities, pelvis or lower abdominal region, spinal anesthesia gives more satisfaction to the operator and a greater margin of safety to the patient than any of the general anesthetics now in use. The especial advantages that I found in this anesthetic are first, that no preliminary nar-

cotic is necessary for the success of this anesthetic and so there is no drying up of the secretions and no inhibition of the intestinal movements. And secondly, excessive vomiting is very rarely encountered and the patient may take fluids by the mouth immediately on the patient's return to bed. In fact I have not encountered any postanesthetic complication in any of those patients that could be connected with spinal injection of novocain. The technic of administering this anesthetic is quite simple. If a few principles are kept in mind and the novocain is injected in the spinal canal in the proper amount a complete anesthetic may be expected in practically every case. In approximately three hundred cases both young and old in which I have used the spinal anesthetic there was only one patient in which a perfect satisfactory anesthetic was not obtained, and I believe in this one case it was simply a delayed anesthesia.

A word of warning I believe at this time to be in order as I would not leave the impression that there are no dangers associated with spinal anesthesia. A review of the literature and the experience of some of the older surgeons would very soon dispel this delusion. Spinal anesthesia if used indiscriminately may be a very dangerous procedure. No one should attempt its use without due deliberation and a thorough knowledge of physical properties of the particular drug used so as to be able to localize the drug within a definite portion of the spinal canal. This inability to localize the fluid in the spinal canal was the cause of many former catastrophes associated with this particular anesthetic. An intelligent selection of cases is also essential. For example, patients with acute infection, high fevers, young children, very nervous individuals, and patients with unusually low blood pressure, are not suitable patients for spinal anesthesia. The technic of administering this drug must be carefully carried out. Finally, a close observation of the patient is essential all the time he is under the effects of the drug. If these few requirements are carried out conscientiously, spinal anesthesia has, I believe, a definite field of usefulness as a conservative and safe anesthetic, and especially for those elderly patients that are ordinarily considered poor anesthetic risks.

There are certain operations because of their nature or extent or location, as well as operations on some nervous patients, that may be performed only with the aid of a general anesthetic, but no general anesthetic in old people should be considered if local infiltration or spinal anesthesia will suffice to carry you through the operation. The dangers from all general anesthetics are not confined to the

actual time of administration and only show their evil effects several days later.

TECHNIC OF OPERATION

There is nothing particular in regard to the actual technic to be followed in elderly patients, further than the necessity of perfect hematoses (old people react dangerously to even a moderate loss of blood and are slow in regaining the loss). Gentle handling of structures and organs is imperative and no time is to be wasted from the entry of the patient to the operating room until he is returned to his bed. Everything else being equal speed in operating on the old individual is far more important than in the young. An operation on such cases the completion of which consumes two hours, an hour and a half, or even one hour usually terminates fatally.

POSTOPERATIVE CARES

The postoperative care of the elderly patient ought to be individual, side tracking all the irritating routine hospital regulations. A very essential requirement is a good nurse, possessing tact and judgment and ready to recognize the idiosyncrasies of old age. The general idea is to get the patient back as soon as possible to his former routine, customs and habits. Opiates and such like drugs should be limited or if possible excluded and the patient allowed out of bed at the earliest opportunity. Suggestion therapy is particularly helpful during the convalescence of the elderly patient.

CONCLUSION

I am of the opinion that many elderly patients are doomed to semi-invalidism, even to an untimely death, by some curable disease or deformity because they believed they were too old to stand operation. While not minimizing the many dangers and pitfalls associated with surgical interference in old people, I am convinced that many of these elderly individuals suffering from herniae, gallbladder disease, hemorrhoids, procidentia, varicose veins with ulcer, even infections and gangrene of extremities, may be saved or at least made comfortable by conservative operative procedures with comparative safety, if only we use judgment in the selection of patients, the anesthetic best suited for the individual and appropriate preoperative and postoperative care.

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IRRIGATE LUNG LESIONS

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Diseases of the lungs and their treatment have constituted a problem for the medical pro-

fession since time immemorial and probably the most troublesome point to overcome is the location of the lesions. We cannot see them and take care of them as we can local conditions on the surface of the body. It is true that we can guess pretty well as to their extent and condition, after careful examination with stethoscope and fluoroscope and after study of X-ray plates, but they are hidden where it is not possible to watch results of therapeutic measures.

Chronic bronchitis, bronchiectasis, lung abscess and the tuberculous lesions are quite common the world over, and malignancy of lung tissue is not uncommon. So universal is this problem that every practitioner of medicine meets it early and often in his practice, and so difficult is it of solution that few like to carry the responsibility. Years ago the idea of climate as a cure was offered and promptly it became popular to send patients to the mountains to inhale the health restoring ozone. This idea still prevails among the laity, and unfortunately many members of the profession still cling to it. When a patient goes away and leaves the doctor's care our responsibility ends. Thousands of doctors have found patients suffering from "lung trouble" and advised them to go where they could breathe the high dry atmosphere of the mountains. Hundreds of thousands of sufferers have gone, only to die among strangers, or to return in worse condition than when they left home. Very few are benefited by the change.

Not a great many years ago it was a common practice to advise a patient to get out and ride a horse, if he were strong enough to sit a horse. Riding a horse kept the patient in the open air but the exercise was too strenuous, and that plan went the way of other theories of fifty years ago. Then the rest cure came into its own. Since then we have been sending people to bed, to stay there until the disease is arrested. This was a long step in advance. Cases are actually arrested in this way and the patients returned to useful lives. However, complete rest in bed is the most important item of the plan, and this has proven fatal to many a poor unfortunate nervous wreck who could not endure the strain of months of inactivity.

Untold numbers have gone to bed with a firm and steadfast resolution to stay there until the disease was arrested, stayed as long as they could, gotten up and broken down by a little exercise, repeated the process, until they finally lost hope, gave up the ghost and went the way of all flesh. We have seen hundreds of them try with all their strength of will and soul and mind and body, only to find it impossible and succumb to the inevitable. From the rest cure

they can only hope for an arrest; the disease is not cured. The germs remaining in the scar tissues continue a menace as long as life lasts.

Artificial pneumothorax came into use as a means of putting the diseased lung at rest. This is an invaluable measure, especially where the disease is unilateral. Without doubt it has aided in arresting many cases and prolonging life. The infected tissues are pressed together more or less immovably and the germs are trapped, letting the lesion heal. Thoracoplasty is used with the same end in view; all with the idea of arresting the lesions. Cure has not been thought possible.

In other parts of the body, where it is possible, an infected area is cleansed, even to the extent of curetting, as in the uterus; or excised, as the appendix and gallbladder.

Why should we expect nature to wall in the germs of lung lesions? Why not wash them out and be rid of them? It can be done. Myerson has cured lung abscess by irrigating. Stitt has relieved bronchial asthma by irrigation, and a tuberculous cavity has been cured by irrigating it. I use the word "cured" deliberately. A lesion healed with the infecting germs remaining in the scar tissues is arrested. One healed clean and free of infection is cured.

Not only is an arrested case always in danger of overexertion breaking down the scar and releasing the germs to start another battle, but the re-activated case frequently is harder to control than the primary infection. The patient is older, has less resistance, more responsibilities, and is more inclined to defer returning to bed. Having experienced it once he dreads to repeat. He knows an arrest requires many months, sometimes years.

When we can treat these cases by irrigation, improvement is more rapid. As soon as the germs and debris are removed there are no toxins left to be absorbed, consequently nothing to cause fever or the aches and pains and feeling of exhaustion that accompanies lung diseases, and so especially marked in tuberculosis. As soon as the lesion is clean inflammation subsides, and if it is kept clean healing should be uninterrupted. Appetite manifests itself, weight begins to increase, strength returns and with it the feeling of general well being.

Dr. Myerson in treating lung abscess deposits his irrigating solution then removes it by use of a suction tube. Dr. Stitt treats bronchial asthma by use of a bronchoscope and suction tube. Their *modus operandi* probably cannot be improved upon and they are entitled to unstinted credit for their work. Not only is it wonderful, it is inspiring.

Before knowing of their operations, the

writer developed a simple method which is described here to be taken for just whatever it is worth.

After using a 2 per cent. solution of butyn to anesthetize the throat, larynx and upper trachea, we use a tracheal catheter covered with one of soft rubber, attached to a soft rubber bulb of three ounces capacity which contains our irrigating solution. With a lighted tongue depressor and laryngeal mirror it is easy to see the epiglottis and insert the tip of the catheter between the vocal cords. Patient should be recumbent on the side to be treated, with the shoulders higher than the pelvis, so the fluid will find its way downward into the lung. By lowering the shoulders after depositing the solution the apex can be flooded quite nicely.

The metal tracheal catheter is covered with soft rubber to avoid injury to the tissues with which it comes into contact. The solution is used two degrees warmer than the body temperature to avoid chilling the lung tissues thus eliminating danger of pneumonia, atelectasis, edema of the lung and such other complications as might arise if the solution were used cold.

Some of the solution will be coughed out at once, because of the cough reflex which cannot be controlled, but this will bring some sputum with it; and some of it will remain to be coughed out as long as forty-eight hours later. So long as it remains in the lung every breath of air taken moves it about washing loose more detritus, further neutralizing the acidity of the inflammation, and destroying more toxins. And when the time comes to cough it out, it comes easily, freely, without exhausting the patient; and it brings debris with it.

In a case of tuberculosis we use a 5 per cent. solution of calcium chlorid in distilled water. This solution is filtered and refiltered, then boiled before using. In bronchiectasis we use the same solution. In chronic bronchitis we have found a 10 per cent. solution of alkaline antiseptic very satisfactory.

All our instruments are wrapped in a clean towel and boiled, then wrapped (towel and all) in a clean piece of oilcloth and taken to the home for use, or used in the office. The operation requires little skill and such as is needed will be acquired after a few trials, so the general practitioner in the country can do it in a farm house as well as the specialist in the city in the most modern and best equipped hospital.

Unfortunately, our cases are not in a hospital where we could have frequent X-ray plates made of them, consequently this report is clinical only and in a sense preliminary. However, clinical results are very pleasing to

most patients and these can be judged to an extent.

After adding this treatment to the rest cure in universal use, the writer has seen the physical signs of a cavity three inches in diameter contract to one inch in diameter in 90 days; the thick greenish yellow sputum from that cavity disappears in 67 days; the midafternoon temperature drops from 102° F. to normal in 48 hours; and all aches and pains vanish in 10 days. This patient began this treatment with no appetite, weighing 65 pounds, developed an insatiable hunger in 4 days and attained the weight of 100 pounds in 70 days.

In a mild case of bronchiectasis the odor was gone and little exudate remained after two weeks of treatment and four irrigations.

Chronic bronchitis of 10 to 25 years standing was relieved of distressing symptoms after two to three weeks treatment of four to six irrigations.

The operation causes no distress and no discomfort other than the thick heavy feeling in the throat resulting from the anesthetic. No unpleasant symptoms have been seen and no failure of happy results.

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REFERENCES

1. Myerson, Mervin C.: Lung Abscess Cured by Bronchoscopy, *Arch. Otolaryng.* 2:136-140 (August) 1925.
2. Stitt, Howard L.: Bronchial Aspiration and Irrigation With Hypertonic Saline Solution, *J. Med.* 8:112-117 (May) 1927.

PERINEPHRITIC ABSCESS

SPONTANEOUS RUPTURE INTO THE LUNG

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AND

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Perinephritic abscess uncomplicated is a relatively common condition but at times offers extreme diagnostic difficulties and occasionally troublesome complications. We feel that this case is unusually rare because of its clinical course and, therefore, worthy of reporting. The following is a brief resume of the history and clinical findings:

REPORT OF CASE

J. M., white, male, age twenty, entered the hospital on August 4, 1927, complaining of chills, fever, pain in the lumbar region and malaise.

Family history irrelevant.

Past medical history. Usual childhood diseases, several severe attacks of tonsillitis. Tonsillectomy and adenoidectomy 1924, secondary tonsillectomy May, 1927, followed by rather severe hemorrhage. In the winter of 1927 patient suffered from abscesses about the rectum and

three or four months prior to his entrance into the hospital had a multiple furunculosis.

Present illness. For two weeks prior to entry into the hospital patient had been confined to bed with chills, fever and left lumbar backache. Upon further questioning it was learned that he had been suffering, in a lesser degree, from the above described symptoms, for two weeks previous to his confinement to bed. There had been a loss of twenty pounds in weight since the onset, mild frequency and dysuria, and profuse night sweats. There were no other symptoms of importance.

Physical examination. Physical examination revealed a markedly emaciated and toxic patient, temperature 102, pulse 100, respiration 20, blood pressure 116 over 70. There was a large tender boggy mass in the left flank pointing anterior and posterior, with a leathery induration posterior to the kidney suggestive of a perinephritic abscess. The right kidney region was negative, expansion of the left chest was limited because of the accessory muscle spasm, and there was an occasional postural rale over each base. The remainder of the physical examination was entirely negative.

Laboratory findings. White blood count 14,000, red 3,980,000, hemoglobin 60 per cent., polymorphonuclear leukocyte percentage 83 per cent. Wassermann negative. Nonprotein nitrogen 35 mgs. per hundred cc. Urine albumin 2 plus, sugar negative, microscope showed many white blood cells, an occasional red blood cell and many staphylococci.

Cystoscopic examination. Instrument passes easily, urine very cloudy, bladder mucosa shows a generalized acute patchy cystitis with many mucopurulent plugs floating about the bladder; no other bladder pathology. Ureteral orifices normal, both catheterized, no obstruction on either side. Urine from right kidney clear, left showed considerable retention of cloudy urine.

Differential kidney functional test: Right kidney appeared 2½ min. in 5 min. showed 12½ per cent. Left kidney appeared faint trace of dye in 15 minutes.

X-ray with catheters in place negative. On account of patient's extreme toxicity pyelograms were not made.

Right kidney specimen microscopically and culturally negative. Left kidney, many white blood cells and staphylococci.

From the first examination we concluded that the patient had a staphylococcal pus retention, with rupture of a cortical abscess and secondary perinephritic involvement. Surgery was advised and the patient was grouped for transfusion and prepared for operation. Six hours before the time scheduled for operation the patient developed a sudden intense paroxysm of coughing, and expectorated large quantities of thick brownish pus, the mass in the left flank became softer and much less tender, and he was temporarily relieved from much local discomfort. It was very evident the abscess had ruptured into the lung, but there were no physical signs of an empyema, only many loud bronchial rales over the entire left lower lobe. Fluoroscopic exam-

ination and X-ray plates of the chest showed the inner aspect of the base of the left lung adhered to the dome of the diaphragm and the pleural cavity entirely clear.

Under local anesthesia immediate and extensive drainage of the perinephritic abscess was done. A large quantity of pus was evacuated, the kidney palpated and found to have a rent in the lower pole which was quite significant of a recent rupture of cortical abscess. 500 cc. of citrated blood was given the patient and he left the operating room in good condition.

Postoperative course. There was a mild bronchial pneumonia about the sinus tract in the left lung which quickly resolved. The diaphragmatic sinus was completely healed in three weeks, and the perinephritic space closed entirely in six weeks. Subsequent urological tests, as demonstrated by separate kidney functional tests, showed a gradual return of the infected kidney to normal with a complete disappearance of infection and retention. Three months after the operation the patient had gained forty pounds in weight and was apparently in perfect health.

SUMMARY

In this case we see an unusual and interesting complication, that of rupture of a perinephritic abscess directly into the lung without an empyema. This rare clinical entity we feel should be thought of when considering early operation, and if such rupture does occur without empyema the prognosis is not materially altered if extensive early drainage is carried out.

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REST: ITS PLACE IN HEALTH AND DISEASE*

SCOTT P. CHILD, M.D.

RICHARDS, MO.

John Hilton, of Guy's Hospital, London, in his striking monograph "Rest and Pain," written in 1876, said, "nature has a constant tendency to repair the injuries to which she may be subjected, whether those injuries be the result of fatigue, exhaustion, inflammation or accident. And on the disturbing, local cause being removed, nature immediately applies her remedy, rest."

Today the province of medicine is two fold: First, so far as is possible, the prevention of disease; and second, if such be inev-

itably established, the determination and application of the indicated treatment.

The speaker's thesis is, that for the maintenance of health and in the treatment of disease, acute or chronic, "physiologic rest" is the most important means at one's command. Such in a particular case either is or should be established at the earliest possible moment.

In the subject under discussion we are early impressed, as practitioners of medicine, with the need of knowledge, not only of pathology and disease, but also of physics, physiology and chemistry of the human body, and the earliest signs of any deflection from normal cellular metabolism. We are frequently confronted with the remarkable "reserve" in living tissue and its power of adaptability and compensation. But such in the human body are of necessity limited and definite.

It is found, for instance, in the otherwise healthy individual that overactivity of organic tissue function, or lack of sufficient rest of the general musculature, interferes with the normal circulation of the blood and lymph. Thus is cut off the food and water supply needed for uniform cellular metabolism and growth. In addition, there is interfered with the free removal of waste by the common emunctories, the skin, kidneys, intestines and lungs; in consequence there is a disturbance or lessening of all body function; and, above all, an added burden is thrown back upon the heart and arterial system, whose structure is primarily muscular. Thus one's power of resistance and immunity to bacteria, toxins and all other tissue depressants, is lowered or overcome.

FATIGUE AND BODY METABOLISM

In the life history of organic matter, health and disease are relative terms. This is true not only of human beings but is applicable to other forms of life, both animal and vegetable. In the consideration of health and disease there must be possessed, both for study and treatment, living tissue and a living body. To be living and functioning such tissue or organism has, going on in the cellular structure of which it is composed, certain processes constructive and destructive constituting metabolism. Life and health and the fight against disease are dependent upon such metabolism. The metabolic processes or forces are in character and quality chemical and electrical, the constructive forces being known as "anabolism," the destructive as "katabolism." It is by the normal balanced func-

* Read before the Vernon-Cedar County Medical Society, Nevada, May 1, 1928.

tioning of such forces that life persists, health is maintained, and organic efficiency developed.

In the normal use and exercise of the mature, healthy muscular and nervous systems the average human being or animal is seldom conscious through the sensory system of discomfort, pain or other disturbing symptoms. But with over-functioning or excessive physiologic activity a common condition follows, namely, fatigue. If such condition is heeded it ends as physiologic fatigue. But if continued, a pathologic fatigue, with or without accompanying disease, ensues.

Physiologic fatigue is compensatory and protective in purpose and accomplishment. It suggests one thing for its correction, namely, rest. In the organic world in general rest follows, either through tissue instinct or cell consciousness. With civilized man it is brought about voluntarily by the intelligent individual or under qualified direction. Frederic Lee says "fatigue is repaired just as long as it is kept within physiological limits." The phenomena of relaxation, normal sleep and hibernation, and the heart's diastole represent nature's way of protecting itself physiologically against fatigue and its consequences. The sense of muscular pain, aching or tire, is living tissue's kindly hint to animal intelligence for self-protection; likewise are such phenomena as dyspnea and palpitation, so often following acute fatigue.

Looking into the physiology and chemistry of muscular activity, it is found that certain chemical products are developed as a result and enter into general body metabolism. Among such is lactic acid, normally present in muscle and in certain other tissue. In muscular activity it assumes the form of sarcolactic acid. According to Moore¹ it appears as an end product after a cessation of blood flow and increases to a maximum in fatigue, bearing a definite relation to that state. It also increases in any injury to muscle. There are two other products entering into the process of fatigue, namely CO_2 and monopotassium phosphate. A specific principle has been conjectured and sought but is disclaimed by most biochemists.²

It is at least of contributory interest to refer here to the scientific knowledge possessed and used by the Greeks in the days of Socrates bearing upon the process of fatigue and its results. Preparatory to the method of capital punishment in his day Socrates was approached by his servant and jailor

with the statement directed to the drinking of the hemlock: "You have only to walk about until your legs are heavy, and then lie down, and the poison will act." Fatigue products and hemlock were the lethal potion of Socrates.³

In the normal physiology and chemistry of the body, anabolism and katabolism go hand in hand—are balanced. However, if the destructive forces dominate, even in the exercise of the muscular system, the normal products of fatigue usually thrown off by the emunctories are retained in excess. If so retained they become toxic; fatigue is followed by exhaustion of both muscular and nervous systems and disease is the consequence. If not checked death results inevitably, and not infrequently immediately, as occurs at times in physical contests, such as foot races, both by animals and man. Fatigue undoubtedly contributed to the death of Luther Carey, the noted sprinter of thirty years ago, who established records at both Oberlin and Princeton, though with a known heart lesion. On the other hand the Swedish runner Nurmi, who has a normal bradycardia of 56, is thus protected in his long distance and fast running. After his recent two mile race in Chicago his pulse was counted and found to be beating regularly and strong at 76. With such a cardiac mechanism, with long diastolic rest, fatigue and exhaustion are averted.

FATIGUE AND ITS RELATION TO PHYSICAL EFFICIENCY

Due to the presence of women and children and men of various physical types in industry and athletics the medical profession and government as well are becoming more interested in determining standards and degrees of endurance against fatigue and disease. Goldmark and others have gone extensively into the fitness of women in the industries of Europe, England and America, and have demonstrated plainly their greater susceptibility to disease when fatigued. In the textile towns of New Bedford, Holyoke and Lowell, Mass., where women are largely employed and are upon their feet for hours, their mortality is 207 per 1000 on the average. On the other hand, in the non-textile cities of Boston, New York and Philadelphia the average mortality is but 129 per 1000.

It is the opinion of medical and social authorities the world over that disease of the generative organs and sterility go hand in hand with long hours and constant standing of women while employed. General

fertility among all classes in Italy is 120 per 1000 women, while the childbearing coefficient among industrial women is only 45 per 1000. The induced fatigue of long hours with consequent congestion and inflammation of the pelvic structures is attributed as the principal factor in such decrease.

The relation of physical efficiency and fatigue was emphasized in the late war, during the military draft and in the endurance of soldiers after enlistment. In Switzerland an average of 83.4 per cent. of rural workers was found fit for service while among factory operatives, with their long hours and continuous effort, only 78.3 per cent. were eligible. In France 75 per cent. of the rural population were accepted for military service, but only 50 per cent. of industrial workers. In France it was especially noticeable that a large majority of those with a history of arrested tuberculosis was later activated under the severe hardships of military life.

In the training of troops, cadets and boy scouts, regularity of habits and avoidance in fatigue both increase efficiency and prevent the breakdown of many a youth. Physical endurance and the question of fatigue are most important with reference to children entering school and those in school. The earliest signs of fatigue should be noted and proper rest instituted. Undoubtedly many a case of heart failure, chorea, chlorosis, tuberculosis, and established nervous conditions, such as epilepsy and dementia precox, have their inception and confirmation when children first go to school and enter too aggressively into its strenuous life.

The above indicates the relation in health of fatigue and rest. Physical and physiological activity are necessary that life may exist and continue. But just as important is the necessity of rest to all tissues and cells if they are to function normally and remain well.

REST IN DISEASE

Now turning from the place of fatigue and rest in the normal physiological and industrial life of man, to their part in disease we find them of equal or greater importance. In the presence of pathology all tissues are affected by over-exercise and fatigue. The result to the system is usually definite.

While all classes of disease could consistently be presented in relation to the therapy of rest a limited number will illustrate and define the position under discussion. It

should be stated that neither diagnosis nor specific therapy is being considered nor opinion being raised of indication for specific medical or surgical treatment. The place and value of physiologic rest in disease is the theme.

THE HEART AND CIRCULATORY SYSTEM

The walls of the heart and the general arterial system are composed largely of striated muscular fibers under the control and active service of a large and complex nervous mechanism. Though wonderfully directed and protected by a rhythmic and compensatory diastole, the work of the heart and its blood vessels is enormous. They are in fact the dynamo and energy distributing system of the whole body. They are ever on active duty.

It is significant in this connection that the morbidity and mortality of diseases attributable to the circulatory system are fast mounting up in American vital statistics. Hence immediate care is indicated in all acute cardiac conditions whether primary, as in acute myocarditis, endocarditis and pericarditis, or secondary to an acute infection, as diphtheria, typhoid, influenza, rheumatic fever or septicemia, and in all diseases of childhood.

The tissues involved primarily are the musculature of the heart and blood vessels. Enforced rest will protect and restore them to normal function as nothing else will. Their physiologic fatigue is fast becoming pathologic. Fatty and fibrous changes are bound to occur. In addition venous stasis and disturbed function of other tissues and organs will follow. Rest in bed and peace of mind reduce and regulate heart rate as nothing else does. As emphasized by Poynton,⁴ fatty degeneration and paralysis are always augmented by any physical activity in a case of diphtheria, death often resulting from acute fatigue.

In the convalescence following typhoid and pneumonia with myocardial insufficiency and valvular weakness, rest with the gradual resumption of exercise are most important of attainment if permanent pathologic change does not occur.

In most chronic and established cases of cardiac insufficiency, with or without venous stasis and hepatic engorgement, rest properly applied is the specific condition to attain. All cases of arterial hypertension, with associated arteriosclerosis, likewise should be judiciously advised, limiting but not eliminating their duties, physical exercise and intellectual pursuits. Moderation

in both exercise and rest is the key word in the treatment of chronic cardiovascular pathology.

It is interesting that in an auricular fibrillation digitalis is used specifically to inhibit the heart action to produce diastolic rest. In fact, the miracle in clinical medicine is the restoration and regularity of a badly compensated case of auricular fibrillation, with general venous engorgement, under absolute body rest and its specific augmentor, digitalis.

A double problem is presented in the fat patient having a chronic myocardial or a valvular lesion. Moderate exercise improves the general arterial function and only by exercise can fat reduction be brought about. And with fat reduction less effort is put upon the heart and blood vessels.

PNEUMONIA

There are in general three pneumonias which the profession has to deal with; and whether in adult or child the treatment is specifically one and the same—rest. Even though the infecting organism is typed (and most hopeful work is being done upon pneumococci), in every case of broncho, lobar or tuberculous pneumonia rest in bed, fresh air and nourishment constitute the primary and practical therapy.

In the last severe epidemic of influenza with complicating pneumonias and empyema the value and urgency of rest was early impressed upon the profession and all hospital and military authorities. The common history with the severe cases both of citizens and soldiery was that previous to hospitalization they had been up and active during the early stage of the disease and that such activity always increased the congestion of the tissues, spread of infection, and produced the majority of complications. Rest, when instituted early, limited the invasion, protected the heart, usually averted the severe pneumonias, and lowered the mortality.

STREPTOCOCCIC INFECTION

In practically all acute infections, medical and surgical, in which the common or more malignant streptococci are present, as in septic sore throat, scarlet fever, erysipelas, general septicemia, influenza, pneumonia in general, empyema, or the systemic invasion following a pelvic inflammation, rest is of prime importance and save for nourishment, nursing and systematic treatment, may be the only thing demanded for the patient's welfare and recovery.

In an empyema complicating influenzal pneumonia, in the infiltration of the pelvic structures about an infected tube or ovary or following an induced or accidental abortion, there is often suggested surgical intervention. Here is where caution and judgment wait very practically upon nature's power of resistance.

The tissues at such a time need rest to throw out lymph, to increase the phagocytes in the involved area and to assist heart and circulation in their reinforcement of general metabolism. Later, surgery may be indicated or specific therapy be added if possessed or developed. But in a large majority of cases physiological rest usually restores the tissues and body to a normal clinical condition and prevents an increase in mortality.

NUTRITIONAL DISEASES AND MALIGNANCIES

In established diseases of nutrition, such as diabetes, pernicious anemia, and the malignancies where there is early loss and destruction of tissue and marked changes in the composition of the blood, rest proves of the greatest value. Especially in pernicious anemia and diabetes are the muscular and nerve fibers lowered in mass and in function; rest reduces the metabolic activity and thus conserves tissue. Whatever the specific treatment instituted it is a matter of frequent observation that this class of patients if put to bed and fed and nursed intelligently do better than when ambulatory. In the malignancies not amendable to surgery all symptoms improve to a degree under absolute rest and many cases progress slowly or are aided at times toward a clinical cure.

SYPHILIS

When the initial invasion of a luetic infection is treated as is a case of diphtheria or pneumonia both the malignancy and the duration of syphilis will grow less. As emphasized recently by Dr. Wylie, of the University of Michigan, "syphilis when first acquired by its host as a systemic infection, should be treated as any case of septicemia," put to bed and given as specific and as heroic medication as the tissues will stand. Fatigue is thus avoided, localization of the infection less likely to occur and the chemical affinity between the invading spirochetes and the remedy increased.

For the improvement of public health and for individual welfare and happiness we as physicians and clinicians should stress to every case appearing early in this disease the wisdom and necessity of relaxing phys-

ically and mentally and submitting to intensive and systematic treatment. Again, in chronic or late manifestations involving the important structures, such as the heart and blood vessels, the cord and brain, rest and quiet are most important adjuncts to specific therapy. Cases of aortitis are protected and often checked in their course by absolute rest in bed. Not infrequently tabes and paresis are seen to improve clinically by enforced rest when necessitated by an associated fracture or mental impairment.

The avoidance of physical and mental fatigue and the early instituting of proper rest in early cases of syphilis and in all active late cases, are among the great desiderata of medicine today.

TUBERCULOSIS

When a diagnosis of early or active tuberculosis is made of the lungs, renal system or bones, there is no question as to the indication for absolute and prolonged rest. Food, fresh air and congenial surroundings are important, but until rest is established such elements can aid but little. The burden of proof of the value of specific therapy in tuberculosis is up to those suggesting it. In effecting a collapse of the lungs by thoracotomy or in the administering of opiates, rest to tissues is the object attained. The prevention of activity and possible fatigue of the heart wall and arterial musculature, with the furnishing of food elements and oxygen to the cells of every tissue in the body, are the ends sought. When these ends are secured we have at once instituted the processes, physical and chemical, which in the end effect the arrest or cure.

First, with rest there is a slowing of the pulse. Thus is avoided a congestion of the tissues about the focal lesion, a condition which always favors activity of both the tuberculous and pyogenic infective agents; and second, an interference of the necessary and common supply of arterial blood through the region involved.

How often are the changes in the normal physiology and chemistry of the body considered due to dysfunction and disease? In lowered nutritional and asthenic conditions, such as pulmonary tuberculosis with its accompanying anemia, the oxygen supply to body tissues, especially the digestive organs and muscles, is probably the most important factor. An average adult has some 25,000,000,000,000 red corpuscles, with a square foot surface 1500 times greater than the skin surface, passing through his lungs every three minutes. Two things follow in-

creased exercise and rapid heart rate, i.e., congestion of involved tissues and a reduction of the number of red corpuscles and their hemoglobin content. In the end it is upon these conditions of metabolism that immunity, tissue replacement and normal body function depend. In no other disease is this more true than in tuberculosis.

THE GLANDS OF INTERNAL SECRETIONS

Probably in no group of tissues or organs is there a more marked evidence of disturbed metabolism, or aggravation of distinct disease involvement following fatigue and exhaustion, than in the glands of internal secretion. This is well known in the case of the thyroid and adrenals, but is quite as important a factor in the generative and pituitary glands.

Whether dealing with acute or chronic dysfunction of such structures, preparatory to medical or surgical treatment, the observation of the patient under absolute rest is of first consideration.

In all cases of toxic goiter does this obtain. Here we find myocardial decompensation with tachycardia, loss of flesh, usually distinct anemia, and fever as a rule. Muscular atrophy and weakness are quite universally present. Fatigue of both cerebral and peripheral nerve structures, if not exhaustion with psychoses, occurs. Isolation, absolute rest, and constant nursing care effect improvement if not arrest of the condition. If surgery is to follow, greater safety is thus instituted with the probability of more rapid convalescence.

Whether placing the responsibility upon one or the other of the glands of internal secretion or their harmonic relationship, acute dysfunction often occurs in susceptible individuals under physical effort or nervous excitement. The following illustrates: A youth of 26, organically sound though high strung nervously, with a pulse of 76 and accompanying B. P. S. 120 mm. and constantly negative Wassermann, twice developed acutely under excessive physical strain a typical syndrome of dyspnea, palpitation, marked mental excitement and B. P. of 160 mm. persisting for several hours. Associated with two days of isolation and rest in bed his respiratory disturbance, nervousness and blood pressure were restored to normal. Another youth of 25 during his first week of married life submitted to a life insurance examination when his B. P. was found to be S. 160 mm. without other abnormal circulatory signs. Continence being suggested and followed the applicant

returned in one week with a B. P. of 120 mm. The associated circumstances and signs in such cases, very commonly observed, justify the assumed relation of cause and effect. The nervous, muscular and glandular tissues are most closely related and connected. They are all subject to fatigue and exhaustion. Rest is the prime, probably the sole indication.

SURGICAL CONDITIONS

Today it is common observation that in most acute and chronic surgical conditions an attempt is first made to establish physiologic rest to patients and tissues involved by hospitalization. Thus the tissues locally affected by traumatism, infection, growth, or spasm, are protected and relaxed; the further absorption of toxins is lessened or prevented; the lymph function, so important to normal metabolism, is increased; nervous stimuli removed; and above all the heart and general circulation are maintained in their important functions.

Even in emergency surgery, as a laryngeal diphtheria, a large pleural effusion limiting heart action, an incarcerated, irreducible hernia, or intestinal obstruction in general—absolute rest though temporary is of distinct aid in prognosis.

Surgery in lithotomy of the urinary tract or gall ducts removes an irritant, stops or lessens spasm or pain and permits the local tissues to return to a state of rest, thus preventing further absorption into the system of fatigue or toxic products. In many cases of peptic ulcer, in surgical tuberculosis, as Pott's disease, in the majority of cases of fracture and dislocation, position, immobilization and physiologic rest, are sought.

The imperative need and great value of absolute and protracted rest is illustrated in injury to the brain. Two people receive a like fracture to the skull with cerebral concussion. One walks home or is treated with slight consideration and dies in 6 hours; or within two weeks develops encephalitis. The other is moved at once with caution in an ambulance to a hospital, has established a rigid regime of isolation, position and enforced quiet, for from two to six weeks. The result in the latter case usually is recovery and complete restoration of function.

Tissue function is always disturbed and its resistance lowered in traumatic and surgical lesions, hence any unnecessary movement or operative interference should always be guarded by rest and careful observation.

CONCLUSION

Rational and practical therapy can only be attained by a better knowledge of the fundamental facts in biology. In the practice of medicine there has been and still is too much empiricism. Organic life, its existence and continuance, is dependent upon definite and established laws. The animal body is a complex though understandable mechanism. It is composed of specific organs, tissues, cells and chemical elements. The chemical elements, in their atomic structure, are subdivided into electrically charged particles or electrons.

The normal relationship and balanced action of the structures, cells and substances in the human body make for health. Our service as a profession is to acquire as much knowledge as possible of the human body in its normal physiology and to be able to detect any deflection therefrom.

Organic function, tissue efficiency and cellular metabolism are maintained by the avoidance of fatigue. If fatigue develops and persists, products toxic to the system develop. The circulation is disturbed, congestion follows giving us a focus for the localization of infection. One's normal resistance or immunity is thereby lessened. Here is where rest, the first line of therapeutic defense, is to be established at the earliest possible moment. The attending physician is the one to see the indication and to meet it.

REFERENCES

1. Moore, *Biochemistry*, 1925.
2. Goldmark: *Fatigue and Exhaustion*, p. 25, 1926.
3. *Trial and Death of Socrates*, Plato.
4. Osler, W. W.: *Modern Medicine* Vol. 2, 1925.

GASTRIC HYPERACIDITY

IMPORTANCE OF TREATING AFTER REMOVAL OF FOCAL INFECTION

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REPORT OF CASES

Case 1. Mrs. E., age 49, white, married, complained of a dull gnawing pain in epigastrium relieved at times by food or soda. Was cructating sour fluid, food, and air. Stomach became greatly distended at times causing cardiac embarrassment. Had burning in stomach and what she designated as sour stomach. Constipated at times, stools hard and chunky. Discomfort in stomach had been periodical for about fifteen years but during the past year had been constant. Eight years ago was suffering from the same symptoms and at that time was operated on for gall stones. Her gallbladder was removed. She obtained relief for about two months when her gastric symptoms recurred causing her to have discomfort ever since. She

stated that her present symptoms are the same as the ones she had prior to her operation except that they are more aggravated now.

Physical findings negative except for tenderness in epigastrium and splashing in stomach three hours after eating.

A fractional stomach test revealed a very high acid curve, food retention and occult blood.

X-ray showed a deformity of some magnitude on lesser curvature near pylorus, probably due to previous scarring and a then active ulcer.

Patient was kept on Sippy routine for fourteen months. Has been off treatment for over two years; at present date without recurrence of symptoms.

Case 2. Mr. S. W., age 28, ulcer history dating back six years. Diagnosis confirmed with stomach analysis but not with X-ray. Was treated for six months on a Sippy routine when he developed pain in the region of his appendix. A diagnosis of acute on chronic appendicitis was made and the appendix was removed. Five months following the operation the patient returned stating that on his surgeon's advice he had started in eating everything following his operation, had felt well for two or three weeks when all of his stomach symptoms returned and had been present ever since. He was placed back on his Sippy routine for eight months. Has had no treatment now for one and a half years without recurrence of symptoms.

Case 3. Mrs. G. S., age 54, history of ulcer of the stomach dating back twenty years. Five years previous was advised to have all teeth removed on account of malocclusion and alveolar infection. This was done; her stomach improved for about two months, was free from any gastric distress. Then had a recurrence of gastric symptoms which have continued. Laboratory findings confirmed diagnosis of duodenal ulcer. Patient was placed on Sippy routine for thirteen months, has been without treatment now for three years and except for an occasional attack of gastric hyperacidity lasting a few days at a time, is well.

Case 4. Mrs. O., six weeks previous to coming to my office had appendix removed. Her symptoms indicating the appendectomy had been indigestion, "sour stomach," burning in stomach and tenderness over appendix. About ten days after her operation she had started vomiting; this had gradually become more persistent so that when she came under my observation she was vomiting every two hours. A gastric analysis showed a very high acid curve and the patient was placed on a Sippy routine. She was relieved immediately and has had no recurrence of symptoms in eight months the last month taking very little alkali.

The cases reviewed are typical of quite a large number of similar cases we have on record and are sufficient to illustrate the three conditions to be referred to in this paper, viz., (1) focal infection with acute or temporary gastric hyperacidity; (2) focal infection with chronic gastric hyperacidity; (3) focal infection with chronic gastric hyperacidity and gastric ulcer.

Gastric hyperacidity¹ may result from dis-

eased conditions in the abdomen, such as appendicitis, cholecystitis, etc., from nervous irritability, from indiscretions of diet and from personal hygiene. To these causes may be added focal infection, as in tonsils or teeth, and acute infectious diseases. Gastric hyperacidity is more frequently associated with gastric ulcer than any other condition but this cannot be given as a cause.

Focal infection is the most common cause of gastric hyperacidity according to our records, and that it does cause hyperacidity is best demonstrated by noting the immediate temporary drop in the acid curve following the removal of the focus of infection.

Focal infection of long standing that has caused gastric hyperacidity may bring about temporary or permanent changes in the acid glands of the stomach. If temporary, the simple removing of the focus of infection will stop the hypersecretion, but if permanent the acid glands of the stomach will continue to hypersecrete indefinitely after the focus has been removed. The average case of focal infection is of some duration before the symptoms become pronounced enough to demand attention. If the stomach has been selected as a working ground there are already present in the stomach acid glands that are permanently hypersecreting so that the presence of gastric hyperacidity may be a symptom of the focal infection and of abnormal acid glands.

In the first case reported the patient had gone to her surgeon with symptoms of hyperacidity. She may have had an ulcer present then but her trouble was traceable to her gallbladder which was removed; this was unquestionably the cause of her gastric disorder but it had been of sufficient duration to bring about a chronic hypersecretion in the stomach and removing the cause did not stop the hypersecretion. It was allowed to continue resulting naturally in ulcer which, I am convinced, could have been prevented if treatment had been given immediately after the operation. The patient's hospital days would have been cut in two and her years of unnecessary discomfort avoided.

Case No. 2 was different inasmuch as an ulcer was known to exist and certainly should have received treatment. As it is, the patient is firmly convinced that his appendectomy was an unnecessary operation and that if he had continued on his Sippy routine it alone would have cured him.

The last case reported may or may not have had ulcer; certainly she had permanent

1. Tice, Frederick: *Practice of Medicine*, New York City, W. F. Prior Company, 1921.

hypersecreting acid glands which might have been found, if not prior to the operation, after it by several gastric tests. An alkali treatment started a few days after the operation would have eliminated her gastric distress.

In considering the three classifications, the first, focal infection with temporary gastric hyperacidity, is of importance only from a diagnostic standpoint inasmuch as removing the focus relieves the condition. Therefore the cases reported are of a type coming under the last two classifications, focal infection with permanent gastric hyperacidity and focal infection with permanent gastric hyperacidity and gastric ulcer.

What they demonstrate is that long standing focal infection that has caused a chronic gastric hyperacidity has brought about changes in the acid producing glands that cannot be relieved by the simple removing of the focus of infection but which must be treated as a distinct disease. This is true whether or not there is an ulcer present.

The treatment itself depends upon the degree of abnormality present in the gastric acid glands. This may be ascertained by repeated gastric tests taken at different intervals during the day and by the patient's symptoms.

If the hyperacidity is merely a temporary one it will not be constant during the day and will drop to normal immediately after the focus of infection has been removed and will continue to stay normal. Hence it does not call for special treatment other than that the patient should be cautioned concerning a recurrence of gastric symptoms in order that any necessary treatment might be instituted.

Where the hyperacidity has become chronic and gastric ulcer is present the patient may begin treatment immediately after the focus has been removed. If it is a postoperative case, a Sippy routine may be started at the end of the first week and by keeping the patient in the hospital a few more days, the ulcer can generally be healed. Then by proper hygienic and dietetic management together with the expedient use of alkalis over a period of months, the patient will be cured.

If the condition is hyperacidity alone the treatment indicated is soda bicarbonate, a teaspoonful after meals for several months, to be repeated for five or six days at a time, at any interval where there is a recurrence of symptoms. If there is constipation it may be necessary to use calced magnesia.

It should be remembered in these cases that the use of alkalis sometimes increases the gastric acidity so that after the patient has been taking them for a few days a gastric analysis may reveal the necessity of increasing the amount to be used.

The importance of giving the correct amount of alkali cannot be over-emphasized. The success of the treatment may depend upon this, together with the fact that alkalis should be used over a sufficient length of time. Such treatment accomplishes two things; first, it practically eliminates the possibility of ulcer formation; second, it gives the patient relief during the period when the gastric acid glands are hypersecreting.

SUMMARY

1. There are two types of gastric hyperacidity associated with focal infection. (1) Temporary, (2) permanent.

2. Temporary hyperacidity is generally relieved by removal of the focus of infection. Permanent hyperacidity calls for treatment other than the removal of the focus of infection.

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UMBILICAL DISPLACEMENT AND DEVIATION OF LINEA ALBA IN ACUTE ABDOMINAL CONDITIONS

F. Co Tui and Jacob Meyer, Chicago (*Journal A. M. A.*, June 2, 1928), have encountered a physical condition that bears some resemblance to both Oppenheim's and Schlesinger's sign in unilateral paralysis of the abdominal wall. It is prolonged displacement of the linea alba and the umbilicus to the affected side with skin surface disturbances in the form of folds and creases on the side to which the linea alba and the navel are drawn. They have seen the phenomenon in the following conditions: (1) active duodenal ulcers, four cases; (2) one case of penetrating lesser curvature ulcer, near the cardia, in which the deviation was toward the left; (3) acute appendicitis, four cases. The sign disappears with the disappearance of the painful interval. The cases among the women were in nulliparas. It is doubtful whether this sign can be observed in the fat, the multiparous or the pendulous abdomen. The following points are emphasized: The sign is best seen from the head or the foot of the bed. The side toward which the displacement occurs is the side of greater rigidity as determined by palpation. This sign cannot be relied on in abdomens with postoperative scars. A new scar may pull the umbilicus toward itself, while an old stretched scar may allow the navel to be pulled away to the opposite side. From a careful study of this sign-complex one may often make a diagnosis of unilateral rigidity or of a difference in rigidity by inspection as well as by palpation. In some cases it may be an aid in the localization of a disease condition.

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EDITORIALS

ST. LOUIS—THE NEW CENTER FOR EYE, EAR, NOSE AND THROAT STUDY

St. Louis is destined soon to become a great center for postgraduate study and research in diseases of the eye, ear, nose and throat. In fact, if the plans of the newly appointed heads of the institution come to fruition, St. Louis will rival Vienna as a Mecca for physicians and surgeons who desire to pursue advanced studies in these specialties and attend the most up-to-date clinics that modern science and money can provide.

The School of Medicine of Washington University bids fair to bring fame to our city by the recent creation of two independent departments, namely, the department of ophthalmology and the department of otolaryngology. In the years gone by these specialties in St. Louis have been served with honor by several great pioneers. It is undoubtedly due to the fact that St. Louis has had these great leaders and the larger group of younger men who after studying under them have been doing distinguished work in the treatment of diseases of eye, ear, nose and throat that the opportunity and privilege now come to St. Louis to be a world center in these particular fields.

The inspiration to this project was undoubtedly derived from the late Mrs. Eliza McMillan, widow of William McMillan, first chairman of the American Car & Foundry Company. Through her will Washington University recently received \$1,200,000 for the erection of an eye, ear, nose and throat hospital which would be an integral part of the medical school group. With the McMillan fund in hand the Chancellor and members of the corporation of Washington University first sought for a man to be the guiding spirit of the enterprise. They finally decided on Dr. Harvey J. Howard, who at the time was head of the eye department under the Rockefeller Foundation in the Peking Union Medical College, Peking, China, and appointed him professor and head of the Department of Ophthalmology and Director of the McMillan Hospital and Institute. Dr. Howard is eminently fitted for this work for in China he worked out from the beginning

the problems of construction, administration and development of a large ophthalmological unit, erected under his supervision and associated with a modern medical school and hospital. He has always been devoted to research and has made many original contributions, some of them of great value, to general medicine as well as to ophthalmology.

The General Education Board, a distributor of the Rockefeller millions for educational purposes in this country, became deeply interested in this new project and in Dr. Howard's appointment as head of the institution. After several conferences with those in charge of the Rockefeller Board, an enlarged program has been agreed upon, on the basis of which that Board is willing to give a large amount to provide for the salaries of the full-time teaching and research staff, provided an additional sum for hospital endowment and a fund for the construction and general maintenance of the research institute can be raised from local sources. Furthermore, the corporation of Washington University decided to proceed with the plans for the ear, nose and throat department at the same time. For the latter, Washington University has been very fortunate in securing as the full-time professor and head of the Department of Otolaryngology, Dr. Lee Wallace Dean, of Iowa City, Iowa. In addition to being dean of the Medical School of the University of Iowa for a number of years, Dr. Dean has been and still is editor of the *Annals of Otolaryngology*, the leading American journal of ear, nose and throat diseases. Combined with his recognized ability as an administrator and teacher, Dr. Dean is one of the world's outstanding authorities in his specialty. Dr. Dean will be a codirector with Dr. Howard in the new eye, ear, nose and throat hospital and research institute.

The enlarged program agreed upon calls for the raising of \$350,000 more for the hospital and \$1,000,000 for the research institute from local sources. In order to secure the sum of \$1,500,000 from the General Education Board the above sum must be pledged before the end of this year. In the past few weeks there has been raised about \$250,000 from among St. Louisans. The hospital needs an additional \$100,000 to complete its fund of \$1,500,000.

If the sum of \$1,000,000 required to build, equip and maintain the research institutes of ophthalmology and otolaryngology were contributed from one source, the donor would have the right to designate the name of the research institute in ophthalmology and otolaryngology. If one-half of this sum, or \$500,000, were contributed from one source the donor would have the right to designate the name of either of the research institutes.

The McMillan Hospital will be erected in the fall at the corner of Euclid Ave. and Kingshighway just adjoining the St. Louis Maternity Hospital. It will be eight stories high. The basement will contain the ear, nose and throat clinic and the hospital kitchen and store-rooms. On the first floor there is planned the eye clinic with examination rooms of all kinds and the hospital offices. The second floor will have an operating suite for eye, ear, nose and throat work with a large lecture room. The third floor will house interns' quarters and wards containing 22 beds for colored patients. On the fourth floor there will be wards for white patients containing 44 beds. The fifth floor will hold for service 22 beds for private patients. The sixth, seventh and eighth floors are for research laboratories, physiological optics, physics of otology, eye pathology, nose and throat pathology, bacteriology and animal quarters.

In St. Louis there are sufficient eye, ear, nose and throat patients treated at Washington University and St. Louis University clinics to make postgraduate study in these specialties of great value. It is hoped that the teaching staffs and clinical material of these two schools can and will be combined to give the greatest service.

HORTON TRIES HIS "INFLUENCE" ON THE BOARD OF PHARMACY

Dr. Ray Beaman Horton, of Kansas City and Purdy, Missouri, has been cited to answer a new charge of attempting to influence the issuance of a state license. This time it is the State Board of Pharmacy that accuses Horton, whose license to practice medicine was revoked by the State Board of Health May 27, 1927. This action of the health board was set aside and Horton's license restored by the St. Louis circuit court November 15, 1927, from which decision the board appealed to the Supreme Court where the case is still pending.

The Board of Pharmacy has summoned Dr. Horton to appear before it on the charge that he accepted \$250 for pretended "influence" to obtain an assistant pharmacist's license for Lonnie T. Jackson, of Monett. Jackson had failed in an examination April 10 last, and the acts cited in this charge are alleged to have been committed since then—in other words, while the revocation of Horton's medical license was under consideration in the Supreme Court. The Board of Pharmacy set forth that Dr. Horton asked for \$500 and then agreed to take \$250, which was delivered to E. C. Medlin, an attorney, for him. It charges further that Dr. Horton sent a telegram over the name of a Missouri Congressman asking the Board to

"do what it could" toward issuing the license to Jackson.

Dr. Horton, to whom the summons was delivered at Kansas City, was quoted in the daily press as admitting that he cashed the check as a fee, not for himself but for a Kansas City lawyer "with political influence" and returned the money when the attorney found he could do nothing for Jackson.

"I am as innocent of the charge as can be," Dr. Horton was quoted. "I have known E. C. Medlin, a lawyer at Monett, many years. He told me about this young man Jackson, who desired some help in passing the examinations. I took up the case with a Kansas City lawyer who has political influence, and when I found the lawyer could do nothing for the young man, I promptly returned the \$250."

As to the telegram, Dr. Horton said that was an "unfortunate" error. "I asked a man in my office, who does not hear very well, to send a telegram to Representative Manlove and ask him to intercede for young Jackson," Dr. Horton said.

"The man misunderstood and got the telegram all mixed up, directing the message to the State Board of Pharmacy with the name of Mr. Manlove signed to the telegram. I am ready to go before the board and explain every move that has been made by me in this case."

This new offense by Dr. Horton, however, seems to have stirred even the chief executive, for Governor Baker, according to the daily press, has directed the Board of Pharmacy to make an example of the case and press its charge against Horton. Attorney-General Stratton Shartel is investigating and said that Assistant Attorney-General Lovan would be sent to Monett to confer with the Barry County Prosecuting Attorney. Attorney-General Shartel, in stating that the case would be vigorously handled, said Horton "is simply a plain political fraud and it is time the public should know it," and added:

"A great many people have the idea that political influence and money can accomplish anything with public officials. This is a mistaken idea and must be corrected.

"Horton has done more, in the past four years, to cause this impression than any other individual in the state. He has tried to create the impression that he has political influence, when, as a matter of fact, he has absolutely none. He has been able to deceive a great many people in this regard, and it is time that the public should know that he is simply a plain political fraud.

"In this case Horton evidently told this young man that money and influence would make it possible for him to pass the examination of the Pharmacy Board. This young man had to mortgage his household goods in order to raise enough money to purchase this supposed influence. The money was paid to Horton, and he evidently put the money in his pocket and immediately forgot his client.

"Just such incidents as this give the people the im-

pression that graft is prevalent among public officials. It is a disgrace to our public institutions, and I shall do everything in my power to wipe out such an impression. Horton will be vigorously prosecuted, and anyone else who undertakes to perform such acts will receive exactly the same treatment."

The State Board of Health in its investigation of the "diploma mill" showed that Dr. Horton never finished high school at Purdy, but he was able to obtain in short order licenses to practice as a veterinarian, a pharmacist and finally a physician. Witnesses testified they paid Dr. Horton from \$500 to \$1000 for his alleged "influence" in obtaining licenses. If the latest charge is true, his hand has not lost its old cunning in getting paid if not in getting licenses.

A CORRECTION

In our July number we stated that the Queen's Hospital in Hawaii was the only hospital in the world founded by royalty. This should have read, "the only hospital in the United States founded by royalty."

NEWS NOTES

Dr. L. J. Schofield, Warrensburg, member of the Board of Regents of Central Missouri State Teachers' College, resigned last month.

Dr. Noxon Toomey, St. Louis, who was in the hospital for several weeks following an operation by Dr. W. T. Coughlin, St. Louis, has fully recovered and has resumed his dermatological practice.

Forty-nine applicants were examined by The American Board of Otolaryngology at Minneapolis, June 11, 1928, forty-six being granted certificates. The board will hold an examination in New York City, Friday, October 12, and in St. Louis, Monday, October 15. Applicants for examination may address Dr. W. P. Wherry, Secretary, 1506 Medical Arts Building, Omaha, Nebraska.

Mrs. Marilla E. Comstock, widow of Dr. T. Griswold Comstock, a founder of St. Louis Children's Hospital, willed five-sixths of her \$600,000 estate to charity. Most of the \$590,000 charitable bequests are to Barnard Free Skin and Cancer Hospital, the Shrine Hospital for Crippled Children and the Masonic Home of Missouri. Mrs. Comstock, who was 89 years old, died last April.

Dr. E. Lee Myers, St. Louis, has left for Copenhagen, Denmark, to attend the Congress of Oto-Rhino-Laryngology, and will return sometime in October after a tour of the medical clinics in Europe.

The Pike County Memorial Hospital, Louisiana, formerly the Smith-Barr Hospital, was opened to receive patients on July 2, 1928. It is a 50-bed institution, costing over \$140,000, donated by the late Otis Smith and Susanah Barr. Miss Laura Hornback, of Barnes Hospital, St. Louis, is the superintending nurse.

The 57th Annual Meeting of the American Public Health Association will be held in Chicago, October 15-19, 1928, with headquarters at Hotel Stevens. The American Child Health Association and the American Social Hygiene Association will meet jointly with the Public Health Association. Dr. Louis E. Schmidt, Chicago, is chairman of the local committee and Arthur E. Gorman is secretary. Sessions are being arranged for health officers, child hygienists, public health nurses, laboratory technicians, vital statisticians, health education directors, food and drug experts, industrial hygienists and public health engineers.

Ten dental clinics for children were to be opened in St. Louis by this date, in fulfillment of a sustained and earnest effort by several public spirited groups. This advance in city health work was made possible by a \$35,000 appropriation for the year by the Board of Aldermen. A dentist at each clinic will be paid \$87.50 a month for four hours a day, and an attendant will receive \$900 a year. A supervisor's office and extraction clinic will be in the Municipal Courts building. New equipment will be provided for that clinic and one other, while the Red Cross will donate equipment for the other eight.

The Southern Medical Association will hold its Twenty-Second Annual Meeting at Asheville, North Carolina, November 12-15, 1928. On the first day of the meeting there will be clinics arranged by the local profession at the City Auditorium and at the Government Hospital at Oteen. On Tuesday clinics with clinical demonstrations will be held by some of the outstanding physicians of the South. Beginning Wednesday and continuing through Thursday afternoon the seventeen sections, covering every phase of medicine and surgery, and conjoint meetings, hold their sessions on alternate half days. The president's address and orations will be given Monday evening.

Dr. W. T. (Pat) Coughlin, St. Louis, was a guest of the Sangamon County Medical Society at Springfield, Illinois, June 7, 1928. The title of his subject was "When Goiter Is a Surgical Disease."

The Twenty-Ninth Annual Meeting of the American Roentgen Ray Society will be held in Kansas City, September 25-28, 1928, with headquarters at the President Hotel. The scientific sessions, scientific and commercial exhibits will be held on the top floor of the hotel. Dr. Preston M. Hickey, Professor of Roentgenology at the University of Michigan, will deliver the annual Caldwell Lecture in the Assembly Hall on Wednesday evening. Among those on the preliminary program from St. Louis are, Dr. Ralph A. Kinsella, who will address the meeting on "Routine Roentgen Chest Examination," and Dr. L. R. Sante, who will talk on "Diapedetic Hemorrhage from the Gastro-Intestinal Tract." Any one desiring a final program may address the Program Committee, 1020 Rialto Bldg., Kansas City, Missouri.

For the fourth time Dr. Thomas S. Manning, of St. Louis, has been sentenced to prison for violating the Harrison Act. The sentence, delivered by Federal Judge Davis in St. Louis a month ago, was ten years in prison. On the three previous sentences Dr. Manning was freed on appeal, but served one year at Leavenworth because he was unable to make appeal bond pending decision of the higher court. The appeal bond for the fourth case was set at \$10,000, and Dr. Manning was unable to put it up immediately.

Government evidence was that Dr. Manning issued 3000 prescriptions for 70,000 grains of narcotics in the summer of 1927, following his release from prison. Addicts testified they paid him \$2 each for prescriptions. His defense was that the prescriptions were part of his "reduction cure" or to sustain the patients until they were able to pay for the "cure."

Dr. Manning plunged into a defense of his "reduction" system when Judge Davis asked if he had anything to say before sentence was passed. Other physicians had testified that the "cure" had not cured.

"If doctors like myself had not been hampered by the Harrison Act there would not today be 15 times as many addicts as there were when the act went into effect, and the medical fraternity all over the United States would be using my cure," he declared.

He was sentenced five years on each of eight counts, to run concurrently, and another five years concurrently on each of 21 other counts.

The Annual Assembly of the Inter-State Post Graduate Medical Association of North America will be held in Atlanta, Georgia, October 15-19, 1928. Dr. George W. Crile, Cleveland, chairman of the program committee, has arranged an exceedingly attractive program. Eighty-two renowned clinicians and teachers from all sections of the United States and Canada, and from several European Countries, have accepted places on the program. Among those from Missouri to take part in the program with the titles of their papers are: Dr. W. W. Graves, St. Louis, "A Useful Syndrome in the Clinical Recognition of the Syphilitic"; Dr. T. G. Orr, Kansas City, "Recent Advances in the Treatment of Intestinal Obstruction"; Dr. Elsworth Smith, St. Louis, "Cardiolysis for Chronic Mediastinopericarditis."

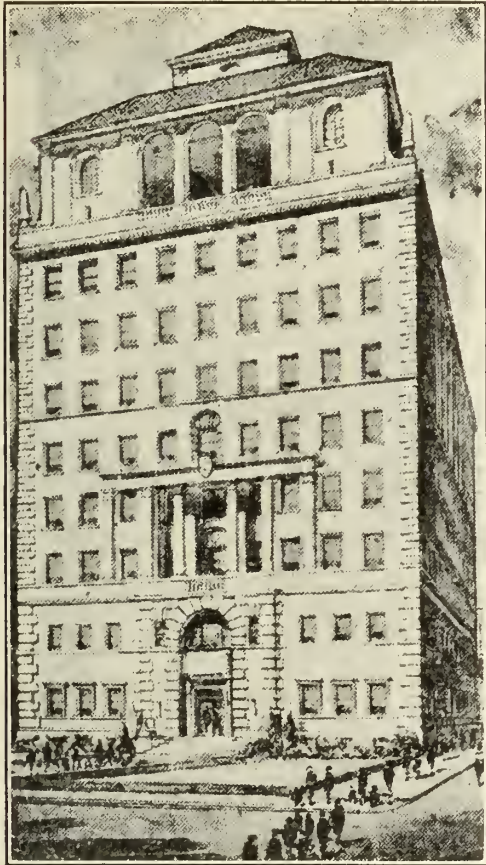
Alleged illegal practices at the Michigan Boulevard Sanitarium in Chicago resulted last month in charges of murder against its chief surgeon, Dr. Justin L. Mitchell, and its owner and manager, Mrs. Marie Fenton.

Investigation was begun upon information of two nurses that abortions were performed at the institution. The authorities said Miss Gertrude Underwood, a former assistant superintendent, told them she had been offered \$1000 hush money, but had left the sanitarium. Police reported that Mrs. Fenton admitted that illegal operations were performed there and that she had drowned a baby and burned its body.

The Illinois Supreme Court has denied the appeal of Dr. Amante Rongetti, of Chicago, who is awaiting death in the electric chair for letting a 19-year-old girl die because she could not pay for the necessary surgical work following an abortion in his private hospital.

In recognition of the need for special training of teachers of crippled children, the Missouri Association for Occupational Therapy is sponsoring a training course for teachers who are already in the field or for those who are training to enter it. The course has been planned in cooperation with the School of Medicine, the Departments of University Extension and of Education of Washington University, and the St. Louis School of Occupational Therapy. The training course is open in part or in whole to any certified teacher or to any student who has completed the first two years of college work and is majoring in education. The emphasis of the course will be laid upon the special needs, physical and otherwise, of the crippled child and of the instruction pertaining thereto. The duration of the course

will be one college year with four months cadeting in hospitals and schools for crippled children. To those who desire to do so, the training may be taken in conjunction with the last two years of college work. Any one interested may obtain the bulletin and further information by addressing the Dean, Missouri Training School for Teachers of Crippled Children, 602 South Euclid Avenue, St. Louis, Mo.



WASHINGTON UNIVERSITY EYE, EAR, NOSE AND THROAT HOSPITAL

Washington University is approaching consummation of an effort to expand to \$4,000,000 the \$1,200,000 gift of the late Mrs. William McMillan and to make St. Louis a world center in ophthalmology and otolaryngology. Only a small proportion of the total remains unsubscribed. Construction is to proceed at once on the nine-story McMillan Hospital, to stand just east of the new St. Louis Maternity Hospital. It will include the first specialized otolaryngological institute in the world, and will be the first hospital of the Washington University group which is not a closed hospital. It will be open to any reputable specialist.

The General Education Board has offered

\$1,500,000, provided an additional \$1,000,000 is raised elsewhere. Nearly \$250,000 has been contributed in St. Louis in recent months, warranting immediate completion of the hospital. The new gifts include \$50,000 from Mrs. John F. Schoemaker; \$50,000 from Mrs. Frederick E. Woodruff; \$50,000 for a Dr. John Blasdel Shapleigh Memorial Ward, from his family. \$30,000 from Mrs. Oscar Johnson; \$25,000 from Mrs. John H. Duncan, and \$500 from Mrs. William Keech.

As directors of the important work to be begun at the new hospital the university has Dr. Harvey J. Howard, formerly of Union Medical College at Peking, as Professor of Ophthalmology, and Dr. Lee Wallace Dean, former Dean of the Medical School of Iowa University, as Professor of Otolaryngology.

The tentative research program has as immediate problems cataract and glaucoma, and trachoma, the latter peculiarly prevalent in Missouri. It is planned also to establish a division for examination of airplane pilots. Most of the tests now in use originated with Dr. Howard as wartime consultant at Mineola Field, L. I., and it is proposed to investigate both the eye and inner ear for more exact data in devising more perfect tests.

OBITUARY

FRANKLIN G. WEARY, M.D.

Dr. Franklin G. Weary, St. Joseph, a graduate of Bennett Medical College, Chicago, 1883, died suddenly May 2, of cerebral hemorrhage, aged 66. Dr. Weary had practiced in St. Joseph ever since receiving his medical degree. He was a member of the Buchanan County Medical Society.

GEORGE R. THOMPSON, M.D.

Dr. George R. Thompson, St. Joseph, a graduate of the College of Physicians and Surgeons, Keokuk, Iowa, 1882, died at the Missouri Methodist Hospital, St. Joseph, June 4, 1928, of pneumonia, aged 73.

Dr. Thompson, well known neurologist and psychiatrist, was formerly superintendent of State Hospital No. 2, at St. Joseph. At the time of his death he was the owner and operator of a sanatorium bearing his name. He was educated at Missouri University and after graduating from medical school began the practice of medicine at Modena, Missouri. In 1884 he moved to Princeton where he practiced for eighteen years, moving to St. Joseph in 1902. He was a member of the Buchanan County Medical Society and a Fellow of the American Medical Association.

WILLIAM CLAY MORRIS, M.D.

Dr. William C. Morris, Kansas City, a graduate of the College of Physicians and Surgeons, Kansas City, 1875, died Wednesday, June 20, 1928, aged 76.

Dr. Morris was city physician of Kansas City in 1876 and 1877. In 1881, while living at Helena, Montana, where he practiced for thirteen years, he served as county physician for Lewis and Clark County. He was an Honorary Member of the Jackson County Medical Society and a Fellow of the American Medical Association. He is survived by two sisters.

JAMES HIRAM TANQUARY, M.D.

Dr. James H. Tanquary, St. Louis, a graduate of the College of Physicians and Surgeons, Chicago, 1883, died suddenly at his home July 2, 1928, of heart disease, aged 72.

Dr. Tanquary, former professor of orthopedics at Barnes Medical College, St. Louis, practiced in St. Louis for thirty-six years. He was at one time a member of the staff of the St. Louis City Hospital No. 2. His preliminary education was obtained at the Illinois State Normal, Chicago. After receiving his medical degree he located at Bellmont, Illinois, where he remained for nine years, moving to St. Louis in 1892. He was a member of the St. Louis Medical Society. Surviving him are his widow and one daughter.

EDWARD SARSFIELD MURPHY, M.D.

Dr. Edward S. Murphy, St. Louis, who had made football history at St. Louis University and had practiced in St. Louis for 21 years, died at St. John's Hospital, St. Louis, on July 7, of a gallbladder infection. He was 42 years old, and is survived by his widow, the former Miss Agnes Stewart, of Kansas City.

Twenty-five years ago Dr. Murphy, then a student, was a slight youth who scarcely looked like good football material to Coach Eddie Cochems, of the St. Louis University football team. But in the season of 1906 and 1907, when the team originated the forward pass and made a clean sweep of its opponents, Murphy set his name imperishably in football annals as a quarterback and field captain par excellence. He was born in Anniston, Alabama, but chose to make St. Louis his home after graduation from St. Louis University Medical School in 1910. He practiced surgery here until the inception of his last illness three months ago. He was commissioned a Captain of the Medical Corps in the World War and

served in training camps in the South. He was a former instructor in surgery at St. Louis University and member of the staff of St. John's Hospital.

Funeral services were held at Kansas City, Mrs. Murphy's former home. His passing is a cause of sorrow to those who have personal and admiring recollections of his brilliant athletic career as well as to those who were associated with him in his later career as a surgeon.

DON ROSCOE JOSEPH, M.D.

Dr. Don R. Joseph, Associate Dean of St. Louis University School of Medicine, died of pneumonia at St. Mary's Hospital, St. Louis, on July 9, after a week's illness. His death was a loss to the university, the local profession and the science of physiology in the whole country. Dr. Joseph was born in Chatsworth, Ill. He obtained his academic degree from the University of Chicago and his medical degree from St. Louis University. For several years he was assistant professor of physiology in Bryn Mawr. In 1913 he was appointed professor of physiology in St. Louis University School of Medicine, with appointment as Vice Dean in 1919, and as Associate Dean last year.

"He was one of the outstanding medical educators of the country," said the Reverend Alphonse M. Schwitalla, S. J., Dean of the medical school. "His extensive contacts with the various associations interested in medical education, and his broad vision of the needs of the public for the training of physicians made him an indispensable counselor in the formulation of the educational policies of our school." Dean Schwitalla credited him with a controlling hand in the erection of the two new medical buildings and in the comprehensive building program, upon which the university entered five years ago and is to spend \$2,000,000 in the coming five years. In addition to teaching, research and administrative duties at the school, he was a council member of five hospitals and secretary of the St. Louis University Hospital Board since the university took over the St. Mary's group.

Dr. Joseph was a Major in the Medical Reserve. He had conducted research work in the physiology of the circulation and the muscular reactions of the eye. He was a member of the Harvey Society, the Society for Experimental Biology and Medicine and the American Physiological Association. At one time he was a fellow of the Rockefeller Institute for Medical Research. He is survived by his widow, Mrs. Lura Licklider Joseph, a son and a daughter.

MISCELLANY

THE SERVICE OF THE LABORATORIES OF THE STATE BOARD OF HEALTH OF MISSOURI

R. L. LAYBOURN, M.S.

Chief of Laboratories

State Board of Health of Missouri

JEFFERSON CITY, MO.

Part II

THE COMMONER TYPES OF PUBLIC HEALTH LABORATORY EXAMINATIONS
DIPHTHERIA

The physician is always anxious to get the laboratory report on a suspected case of diphtheria. Unfortunately, except in very warm weather, at least a few hours incubation are required after the culture reaches the laboratory before a reliable report can be made. Cultures are placed in the incubation as soon as they reach the laboratory and are given a preliminary examination late in the afternoon. Those showing the presence of diphtheria bacilli are reported at once. Cultures which do not show the presence of the organism on the preliminary examination are incubated until the following morning, when the final report is made. Experience has shown that it is not a safe practice to report the absence of diphtheria bacilli until the culture has been incubated at least eighteen hours. The physician can rest assured that the reports on all diphtheria examinations will be sent out within twenty-four hours of the time that the culture is received at the laboratory. Since there must always be some delay in a diphtheria examination, if you suspect diphtheria do not wait for the results of the culture but give antitoxin.

Occasionally throat smears on glass slides will give a quick report of the presence of diphtheria bacilli. They are not as reliable as the culture method and failure to find the organisms does not exclude the possibility of the culture method showing them. Because of their unreliability, smears are not accepted for release from quarantine.

The important points in securing diphtheria cultures are so patent that it would not seem necessary to mention them, yet they are sometimes ignored. Care should be taken to get a representative culture from the site of the lesion. If a membrane is present, the swab should be worked down to its base. In inoculating the culture tube, the swab should be rubbed over the entire surface of the medium with a gentle rotary motion, care being taken not to break the surface of the medium. Cultures are frequently received in which the medium has been broken up in inoculation. Such cultures are difficult to examine. The culture should not be taken until two to four hours after an antiseptic has been used. The culture tubes furnished by the laboratories are sealed with wax and will keep indefinitely if this seal is not broken.

The following reports are issued on diphtheria examinations:

1. *Diphtheria bacilli found.* This simply means that morphologically typical diphtheria bacilli were found. There is no rapid method of determining whether these organisms possess the ability to produce clinical diphtheria or not. The person may be a carrier and may transmit the disease to susceptible persons.

2. *Diphtheria bacilli not found.* This may mean that diphtheria bacilli were not present or the site of infection may be in the nose, nasopharynx, larynx or other area not reached by the swab. Occasionally the culture may not be properly taken. Diphtheria bacilli grow readily when placed on the proper culture medium and are easily recognized by a trained worker. A negative report does not absolutely exclude the possibility of diphtheria. If clinically diphtheria, treat as such until proved otherwise.

3. *Organisms morphologically similar to diphtheria bacilli found. Repeat.* Nontypical organisms of the diphtheria group present which are probably unable to produce clinical diphtheria. An occasional organism of this type possesses disease producing ability and the case should be watched carefully.

4. *No growth. Repeat.* This is usually due to the fact that the culture was improperly taken or the culture tube was not inoculated properly. The media may have been too dry for growth or an antiseptic may have been applied to the throat shortly before the culture was taken.

5. *Contaminated. Report.* This report indicates that the culture was grossly contaminated with organisms which will "overgrow" or inhibit the growth of the diphtheria bacillus.

When discussing diphtheria examinations the diphtheria carrier inevitably intrudes. The laymen and unfortunately some physicians think that the patient is ready for release as soon as the clinical symptoms have disappeared and convalescence is complete. The majority of convalescent diphtheria carriers clear up in a few weeks. A study of this problem by an official of the health department of Detroit a few years ago gives us some idea of what to expect. Dating from the onset of the disease, the throats were free from the organisms in the following proportions:

At the end of two weeks.....	36%
At the end of three weeks.....	71%
At the end of four weeks.....	88%
At the end of five weeks.....	94%
At the end of six weeks.....	96%
At the end of seven weeks.....	98%

Virulence tests. The physician on the case has obligations to both the patient and the community. If the carrier is harboring a strain of the organism which does not possess the ability to produce the disease, he should most assuredly be released. If he is harboring a disease producing strain of the organism the community must be protected. The only way to determine whether a given strain of the diphtheria bacillus possesses disease producing ability is by means of the virulence test.

If you have a persistent carrier the laboratory will be glad to make a virulence test for you. It is usually a waste of time and money to make virulence tests in less than twenty-eight days after the onset of the disease. If run sooner the organism is usually found to be virulent or the throat will clear up before the test is completed.

In submitting a culture for the virulence test simply take and submit the culture in the usual manner and write across the identification blank "Virulence test requested." About five days are required to complete this test.

GONORRHEA

Many of the gonorrhea specimens received are collected in such a manner that they do not permit the laboratory to give first-class service.

The most important thing in collecting a gonorrhea specimen is to obtain fresh pus. The presence of typical organisms within the pus cells is the basis of the report. Pus cells disintegrate rapidly

and release any organism they may have contained. In collecting specimens, exuding pus should be wiped away and the fresh discharge expressed and collected.

Findings in the various stages of the disease. The microscopic picture and the possibility of finding intracellular diplococci on which a report of gonorrhea is based varies with the stage of the disease as follows:

Early stage. Intracellular diplococci frequently found; discharge thin and scanty.

Acute stage. Intracellular diplococci usually found; discharge creamy and abundant; few epithelial cells.

Subacute stage. Intracellular diplococci frequently found; discharge lessened; epithelial cells reappear.

Chronic stage. Intracellular diplococci rarely found; discharge scanty; many epithelial cells.

Specimens from the female. Vaginal smears. Vaginal specimens are always unsatisfactory because the vaginal secretions contain organisms of all sorts which make it difficult if not impossible to identify the gonococcus when present. Also, fresh pus is rarely found in vaginal secretions. Specimens should be obtained from the fresh secretions of the urethra, cervix and Bartholin's glands. A thin smear of uniform thickness should be made on a clean glass slide and allowed to dry before packing for shipment.

Specimens from the male. In active cases a drop of the fresh urethral discharge should be collected on a glass slide and a thin smear of uniform thickness made.

In cases with no evidence of discharge, the prostate should be massaged and the specimen obtained by compressing the urethra and stripping toward the meatus. Smears should be prepared as indicated above.

INTERPRETATION OF REPORTS

1. *Gonococci found.* This indicates that intracellular, Gram-negative, diplococci of the size, shape and staining characteristics of the gonococcus were found in the specimen submitted. Although it is impossible, without cultural and serological tests, to state definitely that these organisms are gonococci, if the material was obtained from a source where the gonococcus is suspected the likelihood of their not being gonococci is slight.

2. *Gonococci not found.* No organisms as described above were found. This does not exclude the possibility of gonococcus infection. It simply means that no gonococci were found in the specimen submitted. In addition to the absence of a gonorrheal infection, this may be due to the fact that the specimen consisted of old pus or that intracellular organisms are rarely found in the stage of the disease encountered.

3. *Pus, mucous shreds, extracellular diplococci found.* This may be due to the fact that the disease is in a stage in which the organisms are not ordinarily found in the cells.

MALARIA

Many authorities estimate that the malaria examination shows the parasites in only about fifty per cent. of the cases of malaria.

Specimens taken shortly before a chill is expected are most apt to show the presence of the parasite.

The following reports on malaria specimens are sent out:

1. *Malaria parasites found.* Bodies of the size, shape and staining characteristics of the malaria parasites were found.

2. *Malaria parasites not found.* This may indi-

cate that the patient does not have malaria or that the patient has malaria, but the parasites were not in the capillaries at the time the specimen was taken. This latter condition may be due to the administration of quinin or to the fact that the specimen was taken too soon after a chill. Repeated examinations should be made on a case suggesting malaria.

RABIES

Contrary to popular superstition rabies is not limited to "dog days." Almost as many cases occur in the winter as in the summer. The worst cases are usually encountered in cold weather. The disease is increasing in prevalence in the greater part of the United States and apparently Missouri is no exception.

Rabies is another disease in which the wrong thing is frequently done. First, and most important, the animal should not be killed if it is possible to capture it alive. Suspected animals should be confined in comfortable quarters and given plenty of food and water. If it was in the infectious stage of the disease at the time that the biting occurred it will develop clinical symptoms within two weeks, usually in five or six days. This leaves an ample margin of safety for instituting the Pasteur treatment, except in cases where the wound is on the face or neck. The average minimum incubation period in man is about forty days. The time required for the administration of the Pasteur treatment is from fourteen to twenty-one days.

When the wound is on the face or neck the incubation period may be much less than forty days. No time is to be lost in such cases. If there is good reason to believe that the animal was rabid treatment should be started at once without waiting for the results of observation or the results of the laboratory examination in such cases.

There are two important reasons for advising the holding of the animal for observation. First, the animal may not be rabid and immediate destruction will result in the unnecessary loss of a pet or valuable animal. Second, when the animal is killed at the first suspicion of rabies it is frequently difficult if not impossible to demonstrate the presence of the disease in the laboratory. This is due to the fact that when the animal is killed in the early stages of the disease there are very few Negri bodies found, but when the disease has been allowed to progress to the later stages the Negri bodies are quite numerous.

When it is necessary to kill the animal do not injure the brain. Any damage to the brain greatly increases the difficulties of the laboratory examination.

Packing and shipment of heads to the laboratory. When a laboratory examination is desired as a confirmation of diagnosis on the actions of the animal or in cases in which the animal was killed before consulting the physician, it should be packed in accordance with the traffic regulations of the American Express Company. The following is a brief abstract of these regulations: (1) Place the head in a metal container which will not permit the leakage of fluids (a lard or syrup pail is good). (2) Place this metal container in a large watertight container (a wooden candy bucket is very satisfactory). (3) Place a half and half mixture of cracked ice and sawdust in the outer container in such a manner as to completely surround the inner container.

Specimens packed in accordance with the above regulations will reach the laboratories in good condition in the hottest weather. Specimens packed in any other way, rarely reach us in a condition which is satisfactory for examination.

While it is somewhat outside the sphere of this article, it has been found that fuming nitric acid is the only reagent which will kill the rabies virus in a wound. Carbolic acid and iodine will prevent the ordinary pus infections but they are of no value for the destruction of the virus of rabies.

TUBERCULOSIS

The container furnished by the state board of health consists of a glass vial partially filled with 5 per cent. carbolic acid, and the mailing cases required by the postal laws and regulations. The purpose of the 5 per cent. carbolic acid is to prevent the decomposition of the specimen in transit. If the carbolic acid has leaked out of the vial it should be replaced before the specimen is collected.

Collecting specimens. The first sputum raised in the morning is most apt to show the tubercle bacillus. If the amount raised in the morning is scanty the entire amount raised during the day should be collected.

Many people fail to differentiate between saliva and sputum. The patient should be instructed to collect the material raised from the lungs and not saliva from the mouth and throat.

Interpretation of report. The presence of tubercle bacilli in the sputum is quite definite evidence of pulmonary tuberculosis.

A single negative specimen does not exclude the possibility of tuberculosis. The organism is present in the sputum only when a lesion is breaking down and negative specimens may, therefore, be obtained from well advanced cases of tuberculosis. Specimens should be examined at frequent intervals over a considerable period of time before any weight is given to negative findings. A single positive case with the diagnosis checked only after repeated laboratory examinations and which results in the patient taking the proper treatment, more than repays the labor involved.

When no tubercle bacilli are found and the composition of the sputum is such as to strongly suggest the possibility of tuberculosis the laboratories will request a second specimen.

TYPHOID FEVER

Three types of examinations are available for your assistance in the diagnosis of typhoid and the paratyphoid fevers. These are the blood culture, the Widal test and feces and urine examinations. Each test has its special use and value in different stages of disease.

The Widal test. The Widal test is of little value in the early stages of the disease, only a small number of cases giving the Widal reaction during the first week of the disease. The proportion of cases giving the reaction is about as follows:

First week	20%
Second week	61%
Third week	77%
Fourth week	86%

As will be noted from the above figures the reliability of the test increases as the disease progresses.

The Widal test is of doubtful value in cases which have received typhoid vaccine and is also credited with an occasional false positive in other conditions, such as miliary tuberculosis, pneumonia, etc.

The reports and interpretations issued by the laboratories on the Widal test are as follows:

Widal reaction present. The patient is now or has been infected with typhoid bacilli (usually typhoid fever). Less common types of typhoid infection such as an osteomyelitis or pneumonia may also produce the reaction. The reaction may also per-

sist from an old typhoid infection or be caused by the administration of typhoid vaccine.

Very weak Widal reaction. Repeat. Specimen may have been taken too early in the disease for a strong reaction or it may be due to a paratyphoid infection or other febrile condition.

Widal reaction absent. This may mean the absence of typhoid infection or the specimen was taken too early in the disease for the presence of the reaction. A very small number of cases of typhoid never give the Widal reaction.

Blood culture. The blood culture is of the greatest value in the early stages of the disease. The proportion of cases giving a positive culture at various stages of the disease is as follows:

First week	87%
Second week	72%
Third week	62%
Fourth week	43%
Fifth week	26%

One special advantage of the blood culture is that the isolation and identification of the organism leaves no room for doubt as to the cause of the illness, while the Widal reaction may occasionally be caused by some other agency than the typhoid bacillus.

Feces and urine examination. The chief use of feces and urine examination is in the detection of typhoid carriers. Liquid or semisolid stools usually give the best result. One large city health department has adopted the policy of administering claterin the night before the specimen is collected in cases in which the condition warrants it. They believe that the proportion of cases in which the organism is found is about tripled by this procedure.

WASSERMANN

The Wassermann test is being made on Tuesdays and Fridays. As the tests are started very early in the morning specimens should reach the laboratory not later than five o'clock on Monday and Thursday afternoons to be included in the following day's run.

Interpretation of reports. Volumes have been written on the interpretation of Wassermann tests and it is not within the limitations of this paper to discuss the subject at all fully.

The result of a Wassermann test should always be viewed in the light of clinical findings. The statement has been made that a great many people are being treated for a positive Wassermann reaction but very few for syphilis. When the clinical diagnosis is carefully made and the Wassermann test performed by a careful worker, using a properly controlled technic, it has been demonstrated that the test is an exceedingly valuable aid in the diagnosis and treatment of syphilis.

A single negative test on a patient with a suspicious history or clinical symptoms means little. Further tests should be made for confirmation. It should be remembered that there is a fluctuation in the amount of syphilitic antibody in the blood. A negative test may be followed by a weak positive or a weak positive may be followed by a strong positive or vice versa.

In clinical cases the Wassermann test gives about the following results:

Primary stage.....	75% positive...25% negative
Secondary stage.....	95% positive... 5% negative
Tertiary stage.....	85% positive...15% negative
Latent stage.....	50% positive...50% negative

Cerebrospinal syphilis will frequently give a negative blood Wassermann and a positive spinal fluid Wassermann.

The Wassermann test may be influenced by malaria, yaws or leprosy infections and by the administration of alcohol, ether, chloroform, arsenic or mercury preceding the collection of the specimen.

Antigens used. In making the Wassermann test the laboratories use a plain alcoholic and a cholesterinized antigen. The plain alcoholic antigen is the less sensitive of the two and is used as a guide in the diagnosis of untreated cases. The cholesterinized antigen is the more sensitive and is particularly valuable in following the effect of treatment. The cholesterinized antigen may occasionally give a false positive, but in the experience of our laboratories this characteristic is seldom observed.

It is hoped that in the near future the laboratories will be in a financial position to make the Kahn test for syphilis in addition to the Wassermann test.

The tests mentioned above are those most commonly made. All types of communicable disease specimens are accepted. We wish the physicians of the state to remember that the laboratories are maintained for their assistance in the control of communicable disease.

ABSTRACT OF PROCEEDINGS OF HOUSE OF DELEGATES AT MINNEAPOLIS SESSION

The total membership of the House of Delegates is 170. At the final session in Minneapolis 154 delegates answered to the roll call.

All constituent state medical associations were represented except those of Florida, Nevada, Alaska and Hawaii. All sections of the Scientific Assembly were represented by delegates except the Sections on Pharmacology and Therapeutics; Nervous and Mental Diseases; Dermatology and Syphilology, and Preventive and Industrial Medicine and Public Health.

In the address of the speaker, Dr. F. C. Warnshuis, it was suggested that the annual speaker's address to the House of Delegates should contain no general recommendations concerning policies of the Association but that it should deal with the affairs and procedures of the House of Delegates. The Speaker urged that careful consideration should be given, and thorough review of matters submitted should be made, by reference committees, and that there should be no generalized approval of referred reports and resolutions.

The President, Dr. Jabez N. Jackson, reviewed vital changes affecting the practice of medicine, referring especially to the development of specialization and institutional care and to the exploitation of the physician in the abuse of medical charity. He offered a recommendation to the effect that there should be an investigation and classification of medical charities, either through a special committee of the Association or through the Judicial Council.

The President-Elect, Dr. William Sydney Thayer, delivered a brief address in which he called attention to the present tendency toward overorganization of the profession. Dr. Thayer paid tribute to the work of Dr. Hideyo Noguchi, lately deceased.

OFFICIAL DELEGATES

The British Medical Association; the Canadian Medical Association; the Victorian Branch of the British Medical Association in Australia, and the Medical Society of Costa Rica were officially represented by Sir G. Lenthal Cheate, of London; Dr. J.

Harvey Smith, of Winnipeg; Dr. R. G. McPhee, of Australia, and Dr. A. Pena Chavarria, of Costa Rica, as fraternal delegates, who presented greetings from their respective societies.

ACTION ON REPORT OF COUNCIL ON SCIENTIFIC ASSEMBLY

The Reference Committee on Sections and Section Work commended the report of the Council on Scientific Assembly; recommended approval of the program of diagnostic clinics and clinical lectures which preceded the regular section programs, and approved the recommendation of the Council that all questions of a scientific nature arising in the House of Delegates or in the scientific sections should be referred to the Council on Scientific Assembly for investigation and report before being considered by the House of Delegates.

The recommendations of the Reference Committee were adopted by the House.

MEDICAL EDUCATION AND HOSPITALS

The report of the Council on Medical Education and Hospitals indicated that the Council plans to devote considerable attention for the next several years to a survey of hospitals in the United States. The Chairman of the Council, in presenting the report, indicated that the difficulties of appraisal are recognized and are being considered by the Council. The report also dealt in some detail with the appraisal of clinical laboratories.

The Reference Committee called attention to the fact that the appraisal of medical institutions and agencies in so extensive and so populous a country as this is a vast undertaking and urged that the policy of the Council should be carried out with great caution and in cooperation with constituent state medical associations and state authorities.

The Reference Committee strongly endorsed the recommendation of the Chairman of the Council on Medical Education and Hospitals urging that the practice of medicine is not the proper function of corporations and that the American Medical Association should use its utmost endeavors to stop this growing abuse. The Committee endorsed the substance of a resolution offered by Dr. Southgate Leigh, of Virginia, to the effect:

(1) That it would be desirable that medical students should graduate and enter practice at an earlier age than at present.

(2) That the plan of covering the medical course in three years of four quarters instead of in four years of three quarters, or any other adequate plan for reducing the length of the medical course, is greatly to be desired.

(3) That the medical course is overcrowded with details and with detailed consideration of specialties and would be improved by less crowding with a course confined more nearly to the essentials, and that efforts to this end should be made.

A resolution presented by Dr. John O. Polak of the Section on Obstetrics, Gynecology and Abdominal Surgery provided that the House of Delegates should disapprove of any reduction in the hours allotted to the teaching of obstetrics and should advocate that obstetrics as a major subject be allotted a number of hours equal to those allotted to surgery. In reporting on this resolution, the Reference Committee on Medical Education made the point that the importance of a subject or the amount of work that it constitutes for the general practitioner alone is not a proper measure of the time which should be allotted to the study of that subject. The Committee also felt that definite instructions of the kind contemplated in the resolution to councils and other

bodies engaged in working out difficult problems are inadvisable and that freedom and initiative should not be hampered by rigid instruction. The importance of thorough instruction in obstetrics was recognized by the Committee, but its recommendation was that the resolution of Dr. Polak be not adopted.

The report of the Reference Committee on Medical Education was adopted by the House of Delegates.

HYGIENE AND PUBLIC HEALTH

The Reference Committee on Hygiene and Public Health recommended that the House of Delegates reaffirm its endorsement of the plans outlined at a previous session for medical relief in disaster.

With respect to a communication addressed to the House of Delegates by the National Grange concerning the alleged scarcity of physicians in the rural districts, the Reference Committee offered the following resolution, which was adopted by the House of Delegates:

Resolved, That an official reply to the Grange be formulated by the Secretary of the House of Delegates embodying the following thoughts:

1. That the House of Delegates is keenly alive to the problems involved and recognizes that, although there will always be some inadequacy of medical services in sparsely settled communities, improvement of medical services in rural districts is needed.

2. That the problem is being intensively studied by the Commission on Medical Education (already in its fourth year), the Committee on the Cost of Medical Care, the Council on Medical Education and Hospitals, and other bodies.

3. That the problem is fundamentally economic and the solution involves much more than the mere length and costs of medical education.

4. That patience and time are necessary in order to obtain data and evolve methods for solving this problem.

5. That suggestions from the National Grange and information will be welcomed by the House of Delegates and by any of the bodies specially engaged in the study of medical educational and economic problems.

The Committee recommended approval of legislation providing for coordination and increased efficiency of the public health activities of the federal government.

The report of the Reference Committee on Hygiene and Public Health was approved.

LEGISLATION AND PUBLIC RELATIONS

The following resolution, introduced by Dr. C. J. Whalen, of Illinois, was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, It has come to our attention that students in universities and colleges are being given free medical care without regard to the ability of the individual to pay for the same, therefore be it

Resolved, That the Judicial Council be requested to investigate the matter as to the extent to which this practice prevails.

The Reference Committee recommended that this resolution be referred to the Judicial Council.

A resolution providing that the Board of Trustees of the Association take leadership in the support of suitable legislation to recognize properly the services of Dr. Jesse W. Lazear and Dr. James Carroll was, on recommendation of the Reference Committee, referred to the Board of Trustees.

The recommendation of the Reference Committee with respect to the report of the committee appoint-

ed to secure revision of undesirable regulations under the Volstead Act was to the effect that this committee be continued for one year.

The Committee approved the resolution introduced by Dr. Orrin Sage Wightman, of New York, providing for the appointment by the Board of Trustees of a Committee on Visual Moving Picture Education.

The recommendations of the Reference Committee on Legislation and Public Relations were adopted by the House of Delegates.

AMENDMENTS TO CONSTITUTION AND BY-LAWS

The Reference Committee on Amendments to the Constitution and By-Laws recommended that the proposed amendment to Section 1, Article 5 of the Constitution, offered by Dr. George Edward Follansbee, of Ohio, be made instead an amendment to the By-Laws to be Section 12, Chapter XI, to read as follows:

The House of Delegates shall have the power to expel a member of the American Medical Association or a Fellow of the Scientific Assembly on recommendation of the Judicial Council.

The Committee offered the following substitute for an amendment to Article 12 of the Constitution offered by Dr. J. C. Litzenberg, of Minnesota:

The House of Delegates may amend this Constitution at any annual session, provided the proposed amendment shall have been introduced at the preceding annual session, and provided two thirds of the voting members of the House of Delegates registered at the session at which action is taken vote in favor of such change or amendment.

The Reference Committee recommended that a change in the By-Laws proposed by Dr. J. C. Litzenberg, of Minnesota, should be changed so that Section 5, Chapter II of the By-Laws shall read:

SECTION 5.—*Quorum*.—Fifty of the voting members of the House of Delegates shall constitute a quorum.

The Committee recommended that a proposed amendment providing that decisions of the Judicial Council should be subject to review by the House of Delegates be rejected.

A proposed amendment to the By-Laws providing for the establishment, maintenance, custodianship and disbursement of special funds by sections of the Scientific Assembly was tabled.

The Reference Committee's recommendation concerning an amendment to the By-Laws, proposed by Dr. Southgate Leigh, to insure representation for constituent associations at the sessions of the House of Delegates was that Dr. Leigh should present the matter in more specific form at the next annual session of the House of Delegates.

The recommendations of the Reference Committee on Amendments to the Constitution and By-Laws were adopted by the House of Delegates, except the recommendation concerning the proposed amendment providing for the establishment and disbursement of special funds by sections of the Scientific Assembly which was laid on the table.

REPORT OF OFFICERS

The Reference Committee on Reports of Officers endorsed the opinion expressed by the Speaker of the House that the Speaker's address should be confined to recommendations concerning the conduct and administration of the business of the House of Delegates.

The Committee did not approve the suggestion offered by the Speaker that the details of the work of the House of Delegates should be published in

full, but did approve the suggestion of the Speaker that endorsements of recommendations and reports should be made by the reference committees only after thorough review and consideration of all matters referred.

The Reference Committee offered its approval of the declaration of the President that "the time has come when no institution or clinic should permit its attending physicians to be imposed on; and when, whatever the social or other advantage to the physician in the clinic, he should not be permitted to contribute to what is a gross injustice to the profession as a whole."

The Committee also approved the principle of the President's recommendation for the investigation and classification of medical charities through the Judicial Council.

The Reference Committee especially approved of the suggestions of the President-Elect that in the multiplicity of independent medical societies there exists a danger of diverting and dissipating the fundamental strength of organized medicine "as typified in the composition of our county, state and national organizations."

The recommendations of the Reference Committee on Reports of Officers were adopted by the House of Delegates.

REPORTS OF BOARD OF TRUSTEES AND SECRETARY

The Reference Committee on the Reports of the Board of Trustees and Secretary endorsed that part of the Secretary's report relative to the multiplicity of existing independent medical organizations whose work, in many instances, parallels the work of the component county and constituent state medical associations and, to some extent, tends to interfere with the successful operation of component county medical societies and constituent state medical associations of the American Medical Association.

Concerning the meetings of hospital staffs, the Committee offered the following statement:

The committee deprecates especially the compulsory multiple scientific meetings of hospital staff organizations. These have tended to limit to small groups the dissemination of medical information and the discussion of medical problems, interfering thereby with the work of organized medical societies. Organization is necessary in order to obtain unified action of the medical profession in various communities. We feel that the need is greater than ever for general discussion of medical problems and for the dissemination of information associated with the specialties to all physicians. Only in this way can the general practitioner keep abreast of modern medicine.

Your Reference Committee suggests that the staff meetings of hospitals be devoted preferably to executive discussions of problems relating to hospital economics and records, and that members of the American Medical Association make special efforts to stimulate interest in, and the development of, scientific medicine in the regularly organized county medical societies.

This part of the Committee's report evoked extensive discussion but was adopted by the House as presented by the Committee.

The recommendations offered by the Secretary concerning relief for needy physicians, which recommendations were submitted in compliance with specific instructions received from the House of Delegates, were approved by the Reference Committee with the recommendation that each constituent state medical association should be left to follow its own

plan for the relief of needy physicians. After considerable discussion, this matter was referred back to the Reference Committee.

Later on in the session, the Committee reported on a resolution presented by Dr. J. Richard Kevin, of New York, providing that a committee of the House of Delegates cause to have made surveys through county medical societies to gather additional information concerning the need for the establishment and maintenance of a national home for incapacitated or indigent physicians. The recommendation of the Reference Committee was that the Board of Trustees should appoint a commission of five to consider the whole situation, including the various solutions that have been proposed, and to determine the responsibility of the American Medical Association.

The Reference Committee expressed appreciation for the work accomplished by the Board of Trustees. It commended the Quarterly Cumulative Index Medicus and strongly urged that the members and Fellows of the Association should give adequate support to this publication. The activities of the Cooperative Medical Advertising Bureau were endorsed by the Committee and expression was given to the hope that the few state journals which do not participate in the work of this Bureau will eliminate the advertising of products which do not have the approval of the Council on Pharmacy and Chemistry.

The report of the Reference Committee stressed the importance of the periodic examination; commended the work of the Council on Pharmacy and Chemistry, and made an urgent appeal for the support of this Council by the profession at large; approved the work of the Council on Physical Therapy, especially in providing for the dissemination of information concerning the methods of physical therapy among the profession, and commented most favorably on the work of the Bureau of Investigation.

Efforts of the Bureau of Legal Medicine and Legislation toward preventing the extension of socialized medical practice by the government through the Veteran's Bureau and similar organizations were endorsed by the Committee, and the intention of this Bureau to continue its work for legislation, giving physicians the right to deduct from income tax returns expenses incurred in attending scientific meetings and in taking graduate courses of instruction, were approved by the Committee. The activities of the Bureau with respect to the status of the physician as an expert witness were also approved.

The report of the Advisory Committee on Trachoma Among the Indians was endorsed by the Reference Committee, and the continuance of this Committee was recommended.

It was urged by the Reference Committee that members of the House of Delegates should take advantage of every opportunity to keep the component societies of the state associations they represent advised about the work of the American Medical Association.

The Reference Committee expressed appreciation of the report of the Committee on the Grading of Nursing Schools, and recommended that the request for additional appropriations for the use of this committee be referred to the Board of Trustees.

The action of the Board of Trustees advising the rejection of the offer of the Physicians' Home, Inc., to the effect that this home be taken over by the Association was endorsed by the Reference Committee.

The Reference Committee expressed interest in the growth and work of the Woman's Auxiliary, and endorsed the continuance of the annual conferences on public health. The continued extension of the activities of the Association were favorably commented on in the report of the Reference Committee, and the plans of the Board of Trustees for providing increased facilities were approved.

The recommendations of the Committee were adopted by the House.

REAPPORTIONMENT OF DELEGATES

On recommendation of the Reference Committee on Reapportionment of Delegates, 775 was established as the basic figure for determining representation of state associations. Thus, each constituent state medical association will have one delegate for each 775 members. Each association with a membership of less than 775 will be represented by one delegate. On this basis, the total membership of the House of Delegates will be 173. California, Florida, New Jersey, New York and Pennsylvania will each gain one delegate, under the new apportionment, while Iowa and Texas will each lose one delegate.

COMMITTEE ON VISUAL MOVING PICTURE EDUCATION

A resolution introduced by Dr. Orrin Sage Wightman, of New York, provided for the appointment of a committee on visual moving picture education whose duties shall be to deal with the problem of using moving pictures for educational purposes. This resolution was adopted.

ELECTION OF OFFICERS

The following officers were elected:

President-Elect, Dr. M. L. Harris, Chicago; Vice President, Dr. W. A. Jones, Minneapolis; Secretary, Dr. Olin West, Chicago; Treasurer, Dr. Austin A. Hayden, Chicago; Speaker of the House of Delegates, Dr. F. C. Warnshuis, Grand Rapids, Mich.; Vice Speaker, Dr. Allen H. Bunce, Atlanta, Ga.; members of the Board of Trustees, Dr. J. H. Walsh, Chicago, and Dr. A. R. Mitchell, Lincoln, Neb.; members of the Judicial Council, Dr. F. W. Cregor, Indianapolis, and Dr. James B. Herrick, Chicago; member of the Council on Scientific Assembly, Dr. Roger S. Morris, Cincinnati; member of the Council on Medical Education and Hospitals, Dr. Reginald Fitz, Boston.

Portland, Ore., was chosen as the place of meeting for the annual session in 1929.

The total registration at the Minneapolis Session was 4,876.

SUBACUTE COMBINED SCLEROSIS PROGRESSIVE DURING REMISSION OF PER-NICIOUS ANEMIA

In the case reported by Armand E. Cohen, Louisville, Ky., (*Journal A. M. A.*, June 2, 1928), while marked systemic improvement resulted from the Murphy-Minot diet, the patient not only showed no improvement in the neurologic condition but developed a pronounced ataxia and other distressing nervous symptoms during an otherwise favorable remission. This case is of especial interest in that the more marked neurologic symptoms developed after the patient had been on the Murphy-Minot diet several months and was enjoying an otherwise distinct general systemic improvement.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

Platte County Medical Society, March 10, 1928.

Miller County Medical Society, March 16, 1928.

Camden County Medical Society, March 23, 1928.

Ste. Genevieve County Medical Society, March 26, 1928.

Atchison County Medical Society, March 30, 1928.

Caldwell County Medical Society, April 14, 1928.

Scotland County Medical Society, May 1, 1928.

Schuyler County Medical Society, May 8, 1928.

Wright-Douglas County Medical Society, May 10, 1928.

Boone County Medical Society, May 23, 1928.

BOONE COUNTY MEDICAL SOCIETY

The members of the Boone County Medical Society met at Columbia, Monday evening, June 4, 1928, and enjoyed a dinner at the Daniel Boone Tavern.

The courtesy of the evening was extended to Dr. Walter E. Dandy, Associate Professor of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore, who gave an address on "Brain Tumors; Diagnosis, Localization, and Treatment." Dr. Dandy illustrated his subject with lantern slides.

HUGH P. MUIR, M.D., Secretary.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met at the Methodist Episcopal Church in Breckenridge, May 24, at 2 p. m. The attendance was small but the meeting was interesting as we had with us Drs. Donald R. Black and W. E. Montgomery, of Kansas City.

"Anemia" was the subject of a paper presented by Dr. Donald R. Black. He spoke about all forms of anemia and his talk was very interesting.

Dr. W. E. Montgomery talked on "Empyemas" and illustrated his subject with lantern slides. In connection with this he brought to our minds many complications that are apt to accompany empyema of the chest.

A vote of thanks was tendered the visitors for their presence and our appreciation of the fine elucidation of their subjects.

The next meeting of the Society will be held in Braymer.

TINSLEY BROWN, M.D., Secretary.

THE KANSAS CITY ACADEMY OF MEDICINE

Meeting of March 9, 1928

PENETRATING WOUNDS OF THE RECTUM.—By DR. ALFRED O'DONNELL.

Penetrating wounds of the abdomen are by stab, gunshot or impaling. The bowel may be penetrated from within by sharp bodies swallowed or introduced through the anus. Rectal injuries constitute 2.4 per cent. of all lesions of the abdominal viscera.

There may be little external evidence of injury. Rectal wounds may be extraperitoneal or intraperitoneal. The time element is important and the operating room may be prepared while deliberating as to surgical interference. Early signs of peritonitis and tenderness on digital examination of the posterior rectal wall suggests an intraperitoneal wound. The escape of feces, urine or bile may indicate injury to a specific organ. The relative frequency of involvement of the internal organs is as follows: small bowel, stomach, kidney, liver, spleen, bladder and pancreas.

Modern methods of transfusion for hemorrhage and intravenous medication for shock leave the problem of treatment chiefly one of control of infection. Infection spreads rapidly in the loose perirectal areolar tissue. If the wound is extraperitoneal débridement and adequate drainage is indicated, and colostomy if the lesion is extensive. If the wound is intraperitoneal, by means of a laparotomy the rectal wall is sutured if possible, or otherwise a colostomy done; proper drainage secured; and the abdominal contents carefully explored for damage to other organs.

Case Reports

Case 1. A 13 year old boy was injured by a broom handle passing about 10 inches up his rectum and entering the peritoneal cavity. There was little pain and only a slight bloody rectal discharge, but within twenty-four hours there were symptoms of peritonitis and the child became delirious. At operation seropurulent fluid was found free in the peritoneal cavity and the patient died six hours later.

Case 2. A 27 year old man, while applying vaseline on a large red, white and blue pencil to his hemorrhoids, became dizzy and the pencil was thrust up his rectum until only the point could be felt by digital examination. The next morning there were signs of peritonitis and a bloody rectal discharge. A wide abdominal incision was required for delivery of the pencil which was free in the peritoneal cavity. The one inch rectal wound was sutured, drains left at this point and also in the rectum. The patient made an uneventful recovery.

DISCUSSION

DR. J. G. MONTGOMERY: The classification nomenclature, "impalement wounds," means literally "to

sit on a stake." Criminals were executed in this manner during the dark ages. According to statistics, these wounds occur about once in ten thousand cases, usually in young adults; 30 per cent. are in the rural districts, which perhaps explains why there are so few reports in the literature; 15 per cent. are in miners, and many in ladder climbers. In a case I know of, a boy fell on a bush. Little attention was paid to him because of the slight pain he had until he died 5 days later with peritonitis. At autopsy a stick was found in the abdomen. The treatment of peritonitis is that of Ochsner plus that of Orr and Haden.

DR. T. G. ORR: We now have a patient in the hospital who was treating his hemorrhoids with a bottle which slipped into the rectum. The X-ray plate showed its location. The patient himself suggested its removal by means of a wire loop. If this fails, it may have to be pushed down through a laparotomy opening.

DR. MONTGOMERY: There was a patient with an inverted drinking glass in his rectum. The bottom was broken out in order to secure and remove it.

DR. JOHN HAYDEN: The bacterial flora of the rectum is a ready source of infection. Drainage is necessary in contradistinction to small gut wounds which can be merely closed. I believe it is a mistake to enlarge the original wounds as described in some textbooks. If a clean incision is made, there is less danger of postoperative hernia. A colostomy permits the removal of much infectious material when the buttocks are extensively injured.

DR. C. C. NESSELRÖDE: Few of these cases are encountered in the city. They are not infrequent in war wounds. I recently had a patient with eight fecal fistulas which were removed four at a time with complete recovery.

DR. O'DONNELL, in closing: Some army reports place 24 hours as the time limit for operation of these cases.

ABDOMINAL PREGNANCY.—By DR. M. J. OWENS.

In spite of the voluminous literature on this subject, it deserves more study than has been given to it. The majority of abdominal pregnancies are tubal in origin. Characteristic symptoms are, recurrent abdominal pains due to bleeding from the tube with peritoneal irritation; irregular uterine bleeding; easy palpation of fetal parts; an empty uterine cavity; and the patient may go beyond term in spite of labor pains. A diagnostic point is the disappearance of fetal heart tones.

Mortality seems associated with the method of removing the placenta. These cases from the literature are illustrative. Daly, of Hartford, Connecticut, diagnosed and operated a case in which the fetal head was under the liver and the cord passed through a uterine opening. The uterus was removed en masse, and the mother died. Thorek operated on a patient who had missed ten periods. He removed the placenta from the abdominal wall and uterus and the mother went into shock recovering with the aid of transfusion.

Case Report

My patient, 38 years old, married 17 years, had two children. About a month after her last period, she had left pelvic pain and two months later sudden severe pain with weakness and vomiting. She was confined to bed, but was up within two months and finally felt life. About nine months from the time of her first missed period she no longer felt life.

Unsuccessful induction of labor was attempted. The X-ray did not reveal fetal bones. A month later she passed clots and the abdomen appeared smaller, and still another month later she was operated. At this time there was a placental bruit, hemoglobin of 70 per cent, no fever. Muddy material appeared when the sac was opened, the dead fetus was freed and removed, and a drain left at the point where the sac was sutured. There was moderate sero-sanguineous drainage, the abdominal mass gradually disappeared, and the patient seemed completely recovered at the end of three months.

There is danger of sepsis if the membranes are left but much greater danger of hemorrhage if they are removed. Early intervention is the best policy.

DISCUSSION

DR. THEODORE ASCHMAN: I wish to report a similar case occurring in June, 1926. The patient had false labor pains, a temperature of 99.4°, fast pulse and chill. The fetal heart tones at operation were 156. It was necessary to remove the placenta. The baby lived but the mother died with shock and hemorrhage. There is usually a high white blood count in these cases in the absence of hemorrhage and infection.

DR. JOHN HAYDEN: I recall a case wrongly diagnosed pelvic abscess because of a white count of 22,000.

DR. C. A. RITTER: These cases do not go to the bad as much as formerly because the pregnant woman now has better care. Convincing diagnostic signs are menstrual irregularities, a sensitive tumor at one side of the uterus, shock without fever and symptoms of a sudden hemorrhage. The growth is more rapid than that of a fibroid.

DR. MONTGOMERY: Multiple cigarette drains are less apt to cause hemorrhage when removed than a gauze pack in these cases. Both tubes should be removed to prevent recurrent ectopic pregnancy.

DR. C. C. NESSELRODE: Dr. Gray operated a patient several years after the fetus of an abdominal pregnancy had been removed and found no trace of the placenta.

DR. RALPH WILSON: Dr. Polak reports good results when the fetus is removed, the placenta left and the wound closed without drainage.

Meeting of March 23, 1928

CARICATURE ILLUSTRATING EARLY PHASES OF MEDICINE.—By DR. F. B. DAINS.

Lantern slides were shown of early Roman, German, Spanish and English pictures depicting the artists' conception of medicine and the physician at various stages in history. The caricatures pointed out attributes which even now are ascribed to certain types of doctors. For instance, there was the German conception of a good doctor and a bad doctor, the one holding up before his eyes a urine glass and the other holding up a bag of money. There were caricatures representing the patient as the Biblical lamb being shorn of its fleece; and of a diseased person in the midst of charts depicting the various kinds of monsters which might affect him. There was the death bed scene of one who had lived a wicked life and was surrounded by devils at his last hour. There were drawings intended to demonstrate the horrors of vivisection, showing animals operating upon a tortured human being. One artist's idea, probably reflecting the popular conception of the time, showed cow heads breaking out on those who had received vaccination against

smallpox. Caricatures of the dress and mannerisms, the motives and inspirations of ancient medical men and the reaction of their patients thereto indicated that there has been little essential change since those days.

END RESULTS IN GASTRIC SURGERY.

—By DR. H. L. SNYDER.

Fifty-six cases of peptic ulcer were operated as follows: posterior gastroenterostomy 37; perforated duodenal ulcer 6; excision of gastric ulcer 1; sleeve resection for hour-glass stomach 1; Finney pyloroplasties for jejunal ulcer 2; severance of gastroenterostomy 1; pyloric resection and posterior gastroenterostomy 2; partial gastrectomy with end-to-side anastomosis 6. There was no operative mortality.

Most of these cases came to operation as emergencies or after extensive medical treatment had been tried without relief. In four of the cases upon which posterior gastroenterostomy was done for duodenal ulcer, jejunal ulcers developed after nine months. One of these patients was quite anemic and had constant achlorhydria. In the six cases of perforated ulcer two were resected and all were drained. One ulcer developed following abdominal injury with a baseball and was operated eight months later with Balfour's cautery and suture method. Several months after operation the patient's symptoms disappeared and never returned. In the sleeve resection the middle third of the stomach was removed and end-to-end anastomosis done. The patient has gained thirty pounds.

After subtotal resection with posterior gastroenterostomy the stomach may empty too fast, the jejunum dilate, and enteritis develop.

The six cases on which partial gastrectomy with end-to-side anastomosis was done were all seriously ill with obstruction. In one where the pancreas was involved a pancreatic fistula appeared on the twelfth day but healed satisfactorily after five weeks. One patient had a mass that was apparently carcinoma of the stomach and within a year he developed symptoms of cancer of the prostate gland which demanded cystotomy. The X-ray in these cases indicated that the stomach waves simulate the normal, the jejunal cap appeared like that of the duodenum and there was a more normal emptying time of the stomach. Therefore this operation is preferable to gastroenterostomy where possible.

However, the choice of operation should be made to suit the case in every instance, depending upon the type of lesion found, the type of patient, and the feasibility of resection.

DISCUSSION

DR. M. J. OWEN: Dr. Snyder is to be complimented upon the amount of material he has had and upon his success. In the last year and a half I have had three cases in which we did partial resection and posterior gastroenterostomy. On one a gastroenterostomy was first performed on suspicion of carcinoma and two months later a resection was done because of symptoms of obstruction. An indurated ulcer was found. The second case was a carcinoma of the pylorus. The patient gained thirty-five pounds but died after six months with obstruction. The third case was done a year ago for scirrhus cancer and the patient is alive and working today.

DR. JAMES R. McVAY: I wish to thank Dr. Snyder for this review. At present the operative treatment of peptic ulcer is much under discussion. Six years ago in Norway and Sweden extensive resection was considered superior to gastroenterostomy

and sleeve resection was even done for pin-sized duodenal ulcers. Prof. Nichclayson, of Oslo, said "gastrectomy is the normal operation in gastric ulcer." Insofar as our own surgery is concerned, the conservative view of the English and Americans has the upper hand. The posterior Polya operation as described by Dr. Snyder, in my experience, seems to remove the ulcer-bearing area, the technic is easy, and the postoperative results are good. The paramount thing is to select cases offering some hope of relief by surgery.

DR. JOHN HAYDEN: One is apt to be most enthusiastic about the operation he is most capable of doing, but Dr. Snyder has selected his method for each case. Surgical intervention should be reserved for symptoms of obstruction, perforation and hemorrhage, and medical treatment carried out otherwise.

DR. CLAUDE HUNT: While I believe gastric ulcer is primarily a medical affair many patients cannot submit to the exacting regimen. Callous ulcers require surgical treatment and the best results are seen with pyloric obstruction.

DR. P. T. BOHAN: I want to compliment Dr. Snyder on fifty-six cases with no operative mortality. Our experience in gastric resection has been one hundred per cent. mortality in a small number of cases. I have a letter from a man who writes that after a third operation on his stomach he was not relieved of his symptoms until put on a milk diet, in bed, for three and a half months.

DR. L. F. BARNEY: There is, as brought out here, no standard treatment as yet for peptic ulcer and opinions are constantly changing. Dr. Lahey, at the meeting of the American Medical Association at Washington in 1927, said that had he not known the surgeons present he would have thought he had gotten into the section on internal medicine.

DR. SNYDER, in closing: No operation for ulcer is justified, except for perforation, until adequate medical treatment is tried. If we cannot practice medicine first we had better not practice surgery.

Meeting of April 6, 1928

CRANIAL ROENTGENOLOGY.—By DR. E. H. SKINNER.

Roentgenograms are presented illustrating these groups:

1. Gross fracture defects with no symptoms, usually the result of gunshot injury or large depressed fragments removed following the injury. The defects are bridged with fibrous tissue with no marginal osseous regeneration.

2. Cranial vault defects which were larger than the original traumatic trephine when a piercing injury was sustained in childhood. There is no evidence of osteogenetic regeneration.

3. Evidence of intracranial pressure upon the skull tables such as finger-print impressions upon the inner table, localized increased porosity, deflection of the pineal calcifications, open cranial sutures, depression of the floor of the anterior fossa, distortion and absorption of the clinoidal processes, increase in the size and number of diploic channels, absorption of a definite localized bone area from carotid tumor, cholesteatoma. The presence of finger-point depressions upon the inner table in children is not necessarily pathologic.

4. Roentgen studies of proven intracranial pneumatocele following fracture of the inner table of the frontal sinus.

5. Luetic deposits of hyperostosis upon the inner table and active lesions of luetic osteoporosis.

6. Proven cases of acromegalic hypophyseal de-

formity stressing the extensive normal variations of the hypophysis and clinoidal processes.

7. Three cases of hyperostosis upon the inner tables of the frontal bone only were accidentally discovered in routine accessory sinus examinations. The patients were women over forty, of low mentality. Support for our contention is found in Knagg's "Diseases of Bone" which reports this as a frequent autopsy finding in insane asylums of England. The localized hyperostosis is probably the result of brain shrinkage, the defect being filled with hyperostotic tissue as the anterior lobes gradually recede from the calvarium. Robitansky supports this contention and claims the condition is found in mania and chronic alcoholism. Upon the usual frontal sinus X-ray films these deposits appear as symmetrical wavy densities which do not cross the remnants of the median fissure of the frontal bone. Nioto, in "Cranial Hyperostosis," presents similar cases observed at asylums. We found similar changes in the frontal bone of a beautiful, but dumb, girl of twenty-three with no clinical support or suspicion of symptoms. The three older women had pain at the frontal sinuses. This condition has not engaged the attention of Americans up to the present time.

DISCUSSION

DR. FRANK R. TEACHENOR: The latter view is new to me. Dandy has shown in cases of epilepsy that spaces left by brain shrinkage are usually filled with cerebrospinal fluid. As an exception to the cases of gradually enlarging cranial defects of children, I had a child in which there was apparent regeneration at the defect. In another case of cerebral herniation, a wall of hard material formed around it. I do not know about the X-ray findings.

DR. SKINNER: No bone.

DR. J. L. McDERMOTT: I saw five cases like those last presented. One woman above the average intelligence showed hyperostosis of the skull. Another, showing the same condition, of average intelligence, had a four plus Wassermann and died with carcinoma of the breast. Both had headaches.

DR. CLYDE O. DONALDSON: Generally there are four topics for discussion under X-ray of the skull, namely, fractures, the sella, increased bone density, which usually means lues, and increased intracranial pressure. What is the significance of calcified pineal gland which is so often seen?

DR. A. L. SKOOG: As to cranial defects with secondary changes in brain function, we know that many cases are admitted as insane following some head injury, but a careful history often shows manifestations previous to the injury. These in some instances may be associated with the exanthemata. I look on such cranial bone changes in most instances as developmental defects.

DR. FRANK RIDGE: In reading the plates, racial characteristics should be taken into consideration as playing some part. Most alcoholics have an increased rather than decreased cerebrospinal pressure. In the cases last mentioned by Dr. Skinner, lues cannot be ruled out on a serologic basis because alcoholics with syphilis may have a negative Wassermann.

DR. SKINNER, in closing: The pineal gland is found calcified in about 80 per cent. of cases between the ages of ten and twenty and is of no significance. The displacement to one side or the other of such pineal shadows may help localize a brain tumor upon the opposite side. A discouraging feature in cranial roentgenology is our frequent inability to find pathognomonic X-ray shadows in the presence of suspicious clinical symptoms.

SURGICAL TREATMENT OF TOXIC GOITER.—By DR. C. J. HUNT.

Sound judgment is necessary in the preoperative and postoperative treatment of toxic goiter. Non-toxic cases require the usual preparation for a major operation. Toxic cases necessitate rest in bed, sedatives, and study of the cardiorenal system. Lugol's solution is beneficial. Gratifying results can be obtained in those who have previously had iodine if, after a period without it, it is readministered.

Extremely toxic goiters are poor risks. It is usually better to do a two-stage operation. Psychosis contraindicates immediate operation because of shock and danger of permanent psychosis. Ligation or unilateral resection may be done later. Toxic adenoma does not respond as well to ligation as does exophthalmic goiter.

The heart may show signs of long standing or of recent degenerative changes with extrasystoles, tachycardia, flutter or fibrillation. Auricular fibrillation or heart failure of moderate degree does not necessarily contraindicate operation. I use digitalis preoperatively with care, hoping to prevent postoperative irregularities. Quinidin is useful in paroxysmal tachycardia and auricular fibrillation. Dropsy usually responds to digitalis, rest and diuretics.

Among postoperative complications are hemorrhage, causing pressure on the trachea and recurrent laryngeal nerves. Patients die from pressure rather than actual hemorrhage. Tetany now rarely develops. It is controlled by calcium lactate and parathyroid extract. Myxedema is usually transient because regeneration of the remaining thyroid tissue occurs. Chronic myxedema responds poorly to thyroid. Wound infection necessitates drainage.

Immediate postoperative treatment consists of rest, fluids, codein, morphine, luminal, and Lugol's solution. Most cases should be drained for twenty-four hours. Skin clips should be removed on the third day.

DISCUSSION

DR. H. S. VALENTINE: In acute thyrotoxicosis X-ray may be used for preoperative preparation, but leaves considerable scar tissue. Some inject boiling water into the gland. Contraindications to complete extirpation are a poor pulse, diarrhea, gastric crisis, and edema. The patient should not be neglected too long before operation is resorted to. Recent investigators have shown that toxic adenoma and exophthalmic goiter microscopically grade into each other. Iodine is good for both.

DR. H. P. BOUGHNOU: Toxic adenomas may be operated after a shorter course of iodine. No patient should be operated with a rising basal metabolic rate. Digitalization before operation may, like thyroxin, cause cardiac irregularities, but quinidin may be used.

DR. JOHN H. OGILVIE: Since some true exophthalmic goiters do not respond as well as hoped for to iodine a possible explanation on pathologic findings is the friability, excessive lymphoid infiltration and very little evidence of colloid or proliferation. These are more apt to become myxedematous after several years. Low diastolic blood pressure means a poor operative risk, and the electrocardiogram indicates the heart goes to pieces immediately postoperative. In two very toxic cases at autopsy I found no evidence of acute myocardial degeneration. Other cases with edema and a notched T wave underwent successful operation.

DR. HUNT, in closing: The basal metabolic rate may be deceiving. Lugol's solution is good for colloid goiter during puberty and preoperative for toxic goiter, but otherwise its administration may be overdone.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society held an all day session, May 8, 1928, at the Missouri State Tuberculosis Sanatorium, at Mt. Vernon. This was one of the best meetings the Society has ever had. Thirty-five physicians and several nurses were present. The day was begun with a buffet luncheon.

Dr. Carl A. Powell, St. Louis, opened the scientific program with an address on "Hypertension."

Dr. Joseph D. James, Springfield, read an interesting paper on "Abnormal Positions in Pregnancy, Recognition and Management."

Dr. Paul F. Cole, Springfield, spoke on "Some Causes of Backache, Revealed by Roentgen Ray Examination," illustrating the interesting points with lantern slides.

Dr. George W. Hogeboom, Springfield, talked on "Renal Tuberculosis," and illustrated his subject with lantern slides.

Dr. S. A. Grantham, Joplin, delivered an address on his method of treatment of tuberculosis of the spine. The efficiency of Dr. Grantham's method of treatment was confirmed by several of his colleagues.

A case of Von Recklinghausen's disease was demonstrated by Dr. B. J. McGinnis, Mt. Vernon.

Dr. Hardy Kemp, Mt. Vernon, discussed his recent research work on the lymphatics of the kidneys as tending to show that tuberculosis of the kidney might be of lymphatic form.

The next meeting of the Society will be held in Aurora.

R. D. COWAN, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met April 20, 1928, at 7:30 p. m. in the office of the county health officer, Dr. C. P. Fryer, Maryville, for the consideration of acute pulmonary diseases. The meeting was called to order by the Vice President, Dr. C. P. Fryer, Maryville, in the absence of the President, Dr. H. S. Maxwell, Hopkins. The following members were present: Drs. L. E. Dean, C. P. Fryer, C. V. Martin and F. C. Wallis, of Maryville; Dr. C. D. Humbert, Barnard. Drs. C. J. Garding, Conception Junction; E. H. Hashinger, Director of the Out-Patient Department of Bell Memorial Hospital; E. R. Deweese, Roentgenologist at Trinity Lutheran, St. Mary's, Mercy, and Veterans' Bureau Hospitals, Kansas City, by courtesy of the Kansas City Southwest Clinical Society, were present as guests. Dr. Harold Ryan, Maryville, was also a guest. The minutes of the meeting of March 9, 1928, were read and approved.

The treasurer, Dr. C. D. Humbert, Barnard, read his report for April which showed a balance of \$47.40 left over from 1927, and two \$50 Liberty bonds with \$6.36 interest due, turned over to the Society's general account, as ordered at the March meeting. Dues for the current year collected to date amount to \$210, of which \$168 have been turned over to the treasurer of the State Association. Thirty dollars in dues for 1927 and \$80 in dues for 1928 remain uncollected.

The secretary, Dr. C. D. Humbert, Barnard, reported that on Wednesday, April 11, 1928, the Society furnished three examiners for a chest clinic

under the auspices of the Nodaway County Tuberculosis Association. Fourteen tuberculous suspects were examined and the Association reported that the results of this cooperation were very pleasing to them and that our work was much appreciated. A similar clinic is to be held in the near future and a much larger attendance is expected.

Dr. E. H. Hashinger, Kansas City, gave an earnest and broad survey of acute pulmonary conditions, with especial reference to the prevalence of mild cases of unrecognized bronchiectasis of both staphylococcic upper respiratory tract origin and of spirochetal origin. He told of numerous cases of the latter type completely cured by antisyphilitic (neosalvarsan) treatment, traced arthritis deformans to the same causation, and called attention to the increasing frequency in late years of various other manifestations of spirochetosis. His remarks on diagnosis and treatment were explicit, thorough and of great practical value. Dr. Hashinger recommends a warm, dry climate, rest and sunlight, an autogenous vaccine, and the iodids and creosote, as being of prime importance to the early staphylococcic bronchiectatic patient.

Dr. E. R. Deweese, Kansas City, presented the roentgenologist's views concerning the more common acute pulmonary lesions and illustrated his summary of diagnostic points with many X-ray pictures showing every stage of several acute lung diseases. His paper was essentially practical and instructive to all of his hearers who discussed the illustrative cases freely.

Meeting of May 11, 1928

The May meeting of the Society was held at Hopkins on the evening of Friday, May 11, with the members and visitors as guests of the President, Dr. H. S. Maxwell, Hopkins. After a brief assembly for introductions the entire gathering proceeded to the Hotel Olmsted to enjoy Dr. Maxwell's dinner. Covers were laid for the following members and visitors: Drs. C. J. Garding, Conception Junction; W. M. Wallis, Jr., Harold Ryan, Frank C. Wallis, C. V. Martin, Dr. and Mrs. C. P. Fryer, Dr. and Mrs. L. E. Dean and Dr. and Mrs. R. C. Person, of Maryville; Dr. and Mrs. W. T. Martin, Albany; Drs. Frank R. Teachenor and B. Landis Elliott, Kansas City; Dr. and Mrs. Eugene L. Crowson, Pickering; Dr. and Mrs. C. W. Kirk and Dr. D. A. Sargent, of Hopkins, Dr. C. D. Humbert, Barnard; Dr. W. M. Hindman, Burlington Junction; Dr. and Mrs. H. S. Maxwell, Hopkins.

The divine blessing was asked by Dr. L. E. Dean, Maryville, and the assembly was then served with a country style banquet that will linger long in local annals of gastronomy. The commodious dining table was overloaded with tasty eatables, elaborately prepared and daintily served, and several other courses followed the point where any sane man's opinion of his digestive capacity would have ordered "Cease."

After the last strawberry on the shortcake had been rescued from its snowy bath of whipped cream the host introduced Mrs. W. T. Martin, of Albany, who gave a short talk on the Gentry County Women's Auxiliary. Dr. Martin corroborated his wife's opinion of the Auxiliary.

Dr. D. A. Sargent, Hopkins, our pioneer physician who has put in fifty years of continuous practice since his graduation in 1878, made a short talk. He gave brief reminiscences of the Society's former days.

And, finally, the "babies" of the profession, Drs.

C. J. Garding, Conception Junction, and Harold Ryan, Maryville, were called upon for talks which were well fitted to the occasion.

Incidentally the banquet had been so conducive to a feeling of opulence that the two members present whose dues for the current year were delinquent promptly sought out the secretary and paid them.

In a state of semi-lethargy from the surfeit of victuals, the meeting adjourned to Dr. Maxwell's office for the business session.

The president had equipped his office with a blackboard, chairs, tables, etc., and created an excellent lecture hall. The minutes of the April 20 meeting were read and approved. The secretary, Dr. Chas. D. Humbert, Barnard, reported sending messages to our congressmen and senators regarding the proposed Harrison narcotic tax increase, and the legislators' replies.

Dr. C. P. Fryer, Maryville, moved that the Society invite the Missouri Tuberculosis Association to hold its coming Regional Conference at Maryville as our guests. The motion was seconded by Dr. L. E. Dean, Maryville, and carried. The conference will probably be held in September.

Dr. H. S. Maxwell, Hopkins, brought up the matter of a uniform fee schedule for the county. Dr. L. E. Dean, Maryville, moved that we set aside one monthly meeting in the near future for the consideration of fees by the Society as a whole, as has been customary in the past. Motion seconded by Dr. W. M. Wallis, Jr., Maryville, and carried.

Through the courtesy of the Kansas City Southwest Clinical Society, Drs. Frank R. Teachenor and B. Landis Elliott, of Kansas City, gave interesting lectures.

Dr. Teachenor, Professor of Neurological Surgery at the University of Kansas School of Medicine, talked on "Skull Fractures and Brain Injuries," and illustrated his points with free-hand blackboard sketches. His remarks were practical and many valuable ideas were brought out in his discussion of treatment.

Dr. Elliott followed with a didactic lecture on "Diagnosis of Mental Disease for the General Practitioner." Psychiatry seems to be the most difficult of medical subjects to reduce to elementary, concrete terms and simple basic ideas, but Dr. Elliott succeeded admirably in both entertaining and teaching his listeners. Several of our members copied his blackboard notes and outlines, a most unusual occurrence, which shows that the doctor's material was approved and worthy of preservation.

Both speakers were willing and gracious in answering numerous questions. The meeting did not adjourn until a late hour, everyone agreeing that it had been the most successful one of the past year.

CHAS. D. HUMBERT, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The Pike County Medical Society met at Louisiana, May 25, 1928. There were twelve members present.

Dr. M. O. Biggs, Louisiana, was appointed Chief of Staff of the Pike County Memorial Hospital. Other appointments on the staff were not completed.

Plans for the opening of the Pike County Memorial Hospital in the very near future were discussed.

CHARLES P. LEWELLEN, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular monthly meeting of the St. Louis County Medical Society was held in the First Con-

gregational Church, Webster Groves, on Wednesday, June 13, 1928, at 3 p. m. The meeting was called to order by the President, Dr. Frank P. Knabb, Valley Park, with the following visitors present: Mrs. J. A. Townsend, Eureka; Drs. B. K. Stumberg and A. P. E. Schulz, St. Charles. Members present: Drs. Garnett Jones and Otto W. Koch, St. Louis; H. P. Durbin, W. F. O'Malley and A. E. Westrup, Webster Groves; Robt. B. Denny, Creve Coeur; O. N. Schudde, Ferguson; J. H. Armstrong, Kirkwood; J. H. Sutter, University City; J. A. Townsend, Eureka; E. E. Tremain, Maplewood.

The scientific program was given by Dr. Louis H. Joestad. His subject, "The Diagnosis and Treatment of Precancerous Lesions," illustrated with lantern slides, was very instructive and interesting.

On a favorable report by the membership committee Drs. C. E. Colgate and Richard Paddock, of St. Louis, were elected to membership.

A motion was made that the regular meetings of the Society be held in the First Congregational Church, of Webster Groves, and that the janitor be given \$1.00 each month for his services and that the church be given a donation at the close of the year. Seconded and carried.

It was moved, seconded and carried that a committee of three be appointed to plan several meetings throughout the county with the St. Louis Cancer Society. Drs. J. A. Townsend, Otto W. Koch and Robt. B. Denny were appointed.

Our two visitors from St. Charles, Drs. A. P. E. Schulz and B. K. Stumberg, gave short talks.

A motion was made endorsing Dr. J. H. Sutter for coroner of St. Louis County. Seconded and carried.

E. E. TREMAIN, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, March 20, 1928

The meeting was called to order at 8:30 p. m. by the president, Dr. Charles Hugh Neilson.

On motion of Dr. Major Seelig, seconded by Dr. Virgil Loeb, the reading of the minutes of the previous meeting was dispensed with.

Announcement of the program for the meeting on March 27, 1928, was made.

The meeting was then turned over to the St. Louis Surgical Society, Dr. William H. Vogt, president; Dr. Irving H. Boemer, secretary.

Dr. Vogt introduced Dr. Dean Lewis, Professor of Surgery at Johns Hopkins University, who gave the Hodgen Lecture—subject, "Reconstructive Surgery."

Attendance 700.

Meeting of March 27, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of March 20 were read and approved.

The scientific program was presented by the Surgical Department of Washington University and consisted of the following:

"The Diagnosis of Frontal Lobe Tumors," by Dr. Ernest Sachs.

Discussion by Dr. Wm. W. Graves.

"Cystometric Bladder Pressure (Its Clinical Significance)," Dr. D. K. Rose.

Discussion by Drs. H. McClure Young, Grayson Carroll; Dr. Rose closing.

"A Survey of the Clinical and Microscopic Evidence of Malignancy in 211 Carcinomata of the Mouth and Allied Structures," Dr. Vilray P. Blair.

Discussion by Drs. Ellis Fischel, George Ives, A. E. Meisenbach.

Attendance 200.

Meeting of April 3, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meetings of March 13 and March 27 were read and approved.

The program was entitled "Hobby Night" and consisted of the following:

"The Hunters: William; William's Brother, John; and John's Wife, Anne," (lantern slides) Dr. James Moores Ball.

"Wanted—A Hobby," Dr. J. Ellis Jennings.

Discussion by Drs. Lawrence Schlenker, Paul F. Titterington, Dan Tucker Miller.

Announcement of the program for the meeting of April 10, "Past Presidents' Night," was made.

Attendance 200.

Meeting of April 10, 1928—Past Presidents' Night

The meeting was called to order at 8:45 p. m. by the president, Dr. Charles Hugh Neilson. The usual order of business was dispensed with.

The chair made a few introductory remarks, greeting the past presidents present, and introducing the speaker of the evening, Dr. William Allen Pusey, of Chicago, who gave an address on "Some Tendencies in the Business of the Practice of Medicine."

The meeting adjourned at 9:40 p. m. to the banquet hall, where a reception to the past presidents was held, followed by dancing.

Attendance 400.

Meeting of April 17, 1928

The meeting was called to order at 8:40 p. m. by the second vice president, Dr. J. Curtis Lyter. The minutes of the meeting of April 10 were read and approved.

Announcement of an exhibition of art by Dr. Eugene F. Hauck was made.

The scientific program was given by the medical department of Washington University and consisted of the following:

"The Medical Treatment of Thyrotoxicosis," by Dr. David P. Barr.

"Allergy," Dr. Harry Alexander.

Discussion by Dr. Louis H. Behrens.

The program for the meeting of the Society on April 24 was announced.

Attendance 200.

Meeting of April 24, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of April 17 were read and approved.

A patient with "Osteosarcoma of the Upper Jaw" was presented by Dr. Ellis Fischel.

A case of "Diverticulum of the Bladder Occurring in Femoral Hernia" was presented by Dr. Walter E. Hennerich.

The regular scientific program was furnished by the Departments of Physiology and Pharmacology of the St. Louis University and consisted of the following:

"The Chemical Control of Respiration," Dr. Alrick B. Hertzman.

"Remarks on the Mechanism of Nervous Control of Respiration," Dr. Don R. Joseph.

"Remarks on the Pharmacology of Respiration," Dr. John Auer.

Discussion by Dr. Edgar F. Schmitz.

The matter of the proposed monthly charge

for listing residence telephones of physicians in the classified section of the Telephone Directory by the Southwestern Bell Telephone Company was brought up and it was moved by Dr. Arthur E. Strauss, seconded by Dr. A. C. Henske, that a committee be appointed by the president to draw up a resolution protesting against the proposed action. Carried.

The committee submitted the following resolutions, copies of which were sent to the Missouri Public Service Commission and to the Southwestern Bell Telephone Company:

WHEREAS, it has come to the attention of the St. Louis Medical Society that the Southwestern Bell Telephone Company proposes in the forthcoming issue of its directory to charge physicians one dollar (\$1.00) per month for listing their residence telephones in the classified section of the said directory, and

WHEREAS, the members of the St. Louis Medical Society feel that this additional charge will add a burden to them which is unjust, unfair, and unwarranted, and

WHEREAS, said action will curtail a facility upon which the public has learned to depend in the emergencies of illness and accident, now therefore be it

Resolved, that the St. Louis Medical Society condemn this action as an attempt by the Southwestern Bell Telephone Company to indirectly increase their rates without the authorization of the Missouri Public Service Commission, and be it further

Resolved, that the St. Louis Medical Society hereby protests against the consummation of this proposal.

Attendance 150.

ROLAND S. KIEFFER, M.D., Secretary.

Meeting of the Council, February 8, 1928

The meeting was called to order at 8:20 p. m., by the president, Dr. Charles Hugh Neilson. The minutes of the previous meeting were read and approved.

Dr. E. K. Dixon read the report of the membership committee.

On motion of Dr. J. F. Mayes, seconded by Dr. John Green, the report was accepted, and the following applicants recommended were voted on collectively and all elected: Active, Drs. Robert J. Crossen, 909 University Club Building; Theodore S. Zahorsky, 536 N. Taylor Avenue. Active by transfer, Richard W. Denney, 5003 Delmar Blvd.; Anthony M. Tripodi, 745 Missouri Building; Nathan Barlow, U. S. Veterans' Hospital; John William Thompson, Jr., 718 Beaumont Building. Junior, Dr. Harold Elmo O'Neal, Missouri Pacific Hospital. Associate, Dr. Alphonse M. Schwitalla, S. J., 1402 South Grand Boulevard.

Dr. Boemer read the current report of the library committee.

It was moved by Dr. Krebs, seconded by Dr. John Green, that the report be received.

Dr. E. F. Schmitz reported verbally for the program committee, outlining programs that had been arranged for two months in advance.

On motion of Dr. H. Unterberg, seconded by Dr. J. F. Mayes, the report was received.

The report of the ethics committee was read by the secretary, and on motion of Dr. E. C. Funsch, seconded by Dr. John Green, the report was received.

Dr. Norvelle Wallace Sharpe asked the Council for a ruling on the election to associate membership

of a nonmedical official of the Red Cross, who contemplated application.

Dr. H. Unterberg moved that this matter be referred to the membership committee. Seconded by Dr. John Green. Carried.

A letter from Dr. Marsh Pitzman, in response to a communication from the president, concerning the broadcasting of health subjects by the St. Louis Medical Society was read.

Dr. H. Unterberg moved that broadcasting by the St. Louis Medical Society or its members be not authorized for the present.

Dr. Noxon Toomey read a letter concerning plans for publishing his history of the St. Louis Medical Society.

It was the opinion of the Council that no action be taken on the matter at this time. However, it was felt that Dr. Toomey was to be commended for his work, and it was moved by Dr. John Green, seconded by Dr. Krebs, that it be the sense of the Council that this meritorious work eventually be published, but that the financial affairs of the Society do not permit the undertaking at this time.

A letter from the Missouri State Medical Association relative to the appointment of a member of the St. Louis Medical Society to the Auxiliary Committee on Public Policy of the State Association was read.

Dr. E. C. Funsch moved that the president be empowered to appoint a member to this committee. Seconded by Dr. C. A. Vosburgh. Carried.

Another communication from the secretary of the Missouri State Medical Association to the president of the St. Louis Medical Society was read concerning a proposal to amend the By-Laws of the State Association extending the period of eligibility for junior membership to four years after graduation.

An application for corresponding membership from Dr. Jacob Schermer, of Granite City, was read and referred to the membership committee.

Dr. Carroll Smith read the treasurer's report for the month of January.

On motion of Dr. C. A. Vosburgh, seconded by Dr. J. F. Mayes, the report was received.

Dr. E. C. Funsch read the report of the budget committee.

On motion of Dr. C. A. Vosburgh, seconded by Dr. J. F. Mayes, the report was received.

Councilors present: Drs. E. C. Funsch, John Green, Krebs, J. F. Mayes, C. H. Neilson, H. Unterberg, C. A. Vosburgh, A. R. Kieffer. Councilors excused: Drs. Fred Bailey, J. F. Hardesty and Robert E. Schlueter. Councilors absent: Drs. R. B. H. Gradwohl, Amand Ravold and Francis Reder. Visitors present: Drs. Elliott K. Dixon, I. H. Boemer, Edgar F. Schmitz, Carroll Smith, Norvelle Wallace Sharpe, Noxon Toomey.

Meeting of March 14, 1928

The meeting was called to order at 8:15 p. m. by the president, Dr. Charles Hugh Neilson.

The minutes of the meeting of February 8, 1928, were read and approved.

Dr. E. K. Dixon read the report for the membership committee.

It was moved by Dr. H. Unterberg, seconded by Dr. J. F. Mayes, that Major Leonard G. Coop be informed that his activities do not come within the scope outlined by our Constitution for associate membership.

It was moved by Dr. J. F. Mayes, seconded by Dr. Bailey, that the report of the membership committee be accepted. The following were elected to membership: Active, B. M. Baird, 5368 Natural Bridge

Road. Junior, James D. Harper, Biltmore Hotel; Ralph Thompson, Metropolitan Building. Corresponding, Jacob Schermer, 1415 Niedringhaus Avenue, Granite City, Illinois.

The report of the library committee was read by Dr. I. H. Boemer, and on motion of Dr. John Green, seconded by Dr. Bailey, the report was received and filed.

Dr. Edgar F. Schmitz reported verbally for the program committee, and on motion the report was received.

Dr. E. A. Scharff reported verbally for the hospital committee, and on motion the report was received.

Dr. McKim Marriott read the report for the committee on health and public instruction.

It was moved by Dr. Bailey, seconded by Dr. John Green, and carried that the report be received.

The report of the necrology committee was read by the secretary, and on motion the report was received.

Dr. Bailey reported verbally for the disaster relief committee, outlining the tentative plan for disposition of personnel in disaster relief work. On motion the report was received.

It was the sense of the Council that members of the Society should not permit the use of their names in "Who's Who in St. Louis."

Two letters from Dr. Ralph L. Thompson were read, one relative to proposed barber shop regulation. No action was taken by the Council as it had previously been disposed of in the report of the committee on health and public instruction. The other concerned the advisability of a medical man in the coroner's office.

It was moved by Dr. H. Unterberg, seconded by Dr. J. F. Mayes, that the president be empowered to appoint a special committee to present to the legislative committee of the Missouri State Medical Association the idea embodied in Dr. Thompson's letter concerning proper medical representation in the coroner's office. Carried.

A letter from the Southern Medical Association concerning their proposed plan for foreign lectures was read.

It was moved by Dr. H. Unterberg, seconded by Dr. J. F. Mayes, that the Southern Medical Association be informed that the St. Louis Medical Society is not interested. Carried.

A letter of resignation from Dr. Craig W. Munter on account of his removal from the city was read and on motion his resignation was accepted.

A letter from Dr. James Knott asking that he be made an inactive member during his absence from the city for a year or so was read.

It was moved by Dr. H. Unterberg, seconded by Dr. J. F. Mayes, that Dr. Knott be informed that his request is constitutionally impossible and the hope expressed that he may continue in active membership. Carried.

The resignation of Dr. Wm. Ambrose Smith was read and on motion of Dr. H. Unterberg, seconded by Dr. R. B. H. Gradwohl, his resignation was accepted.

A letter from the Better Business Bureau was read and on motion of Dr. Robert E. Schlueter, seconded by Dr. H. Unterberg, the letter was ordered filed.

A letter from Dr. John Morfit, suggesting that Dr. C. C. Vanderbeck be elected to Honor Membership resulted in a motion by Dr. E. C. Funsch, seconded by Dr. C. A. Vosburgh, that Dr. Vanderbeck be elected an Honor Member. Carried.

Dr. Vosburgh reported for the James Moores Ball collection committee.

Dr. R. E. Schlueter moved that the contract submitted by Dr. Ball be approved contingent on the addition of a paragraph that it be permissible to provide suitable quarters for this collection in the event that the Society should ever acquire new quarters. Seconded by Dr. Green. Carried.

On motion of Dr. H. Unterberg the president was authorized to sign the contract in the name of the Society and Council.

The report of the treasurer was read by the secretary and on motion of Dr. John Green, seconded by Dr. J. F. Mayes, received and filed.

The report of the auditing committee for 1927 was given by Dr. Francis Reder, and on motion of Dr. E. C. Funsch, seconded by Dr. Hardesty, the report was accepted.

A report of the budget committee was read by Dr. E. C. Funsch.

On motion of Dr. C. A. Vosburgh, seconded by Dr. John F. Hardesty, the report was accepted.

Dr. Vosburgh reported for the bulletin committee concerning the policy of advertising in the Bulletin.

It was moved by Dr. H. Unterberg, seconded by Dr. E. C. Funsch, that the bulletin committee be given full power to act.

Dr. Funsch reported orally for the house committee.

Dr. Unterberg moved that the report of the house committee be received and the following recommendations approved. Seconded by Dr. J. F. Mayes. Carried.

1. That the fee for legal services of Mr. Gentry be allowed.

2. That the secretary be instructed to write Professor Ferrand requesting that he meet with the house committee for a full discussion of the matter of furnishing the lounge, and that the house committee be given power to act.

3. That organizations composed entirely of members of the St. Louis Medical Society be permitted to use, without cost, the Council room and basement hall for scientific meeting purposes.

Dr. H. Unterberg moved that the president be empowered to appoint a special committee to consider the establishment of a Nurses' Registry to operate under the auspices of the St. Louis Medical Society, and that this committee report back to the Council at its next meeting. Seconded by Dr. F. J. V. Krebs. Carried.

It was moved by Dr. Unterberg, seconded by Dr. R. B. H. Gradwohl, that the house committee be authorized to install a Western Union clock in the auditorium. Carried.

It was moved by Dr. Unterberg, seconded by Dr. C. A. Vosburgh, that a sum not to exceed \$500 be placed at the disposal of the president for providing out of town speakers at our meetings. Carried.

A letter from the Service Bureau for Physicians of St. Louis was read.

On motion of Dr. J. F. Mayes, seconded by Dr. John Green, the secretary was instructed to notify Mr. Gordon W. Butler to appear before the Council at its next meeting and outline his plan.

Councilors present: Drs. Bailey, Funsch, Gradwohl, Green, Hardesty, Krebs, Mayes, Neilson, Reder, Schlueter, Unterberg, Vosburgh, Kieffer. Councilor absent: Dr. Ravold.

Visitors present: Drs. Elliott K. Dixon, Edgar F. Schmitz, Eugene A. Scharff, McKim Marriott, Howard H. Bell, Irving H. Boemer.

Meeting of April 11, 1928

The meeting was called to order at 8:00 p. m. by the president, Dr. Charles Hugh Neilson. The

minutes of the meeting of March 14 were read and approved.

Dr. Carroll Smith read the current report of the treasurer which on motion was accepted.

Dr. Ellis Fischel appeared before the Council in reference to securing the Medical Society Building for meetings of the American Society for the Control of Cancer during its campaign May 13 to 20, 1928.

Dr. J. F. Mayes moved that the American Society for the Control of Cancer be extended the use of the building.

This motion was ruled out of order, as it would be necessary to rescind two previous motions, first, one in which it was decided that only organizations composed entirely of members of the St. Louis Medical Society be permitted the use of the building without cost, and, second, that the question of the use of the building by the American Society for the Control of Cancer was considered by the Council at its meeting on March 14, and it was decided that no exception should be made of this organization.

Dr. John Green moved that the Cancer Society be allowed the privilege of holding meetings in the building of the Medical Society without cost.

This motion failed for the want of a second, several members of the Council expressing their willingness to donate \$10.00 each to help defray the rental expense rather than interfere with the precedent of the Society.

Dr. M. G. Seelig appeared before the Council regarding the matter of newspaper publicity and the St. Louis Medical Society.

On motion Dr. Seelig was appointed a committee of one to work with the publicity committee in forming a liason between the Society and the newspapers.

The report of the membership committee was read.

On motion the report was received and the following were elected to membership: Active, Victor E. Hrdlicka, 1206 Missouri Building; Anthony Andrew Piekarski, 1502 Cass avenue; Nathan Anthony Womack, 600 S. Kingshighway.

Dr. Edgar F. Schmitz reported verbally for the program committee.

It was moved that the report be accepted. Seconded and carried.

Dr. Boemer read the report of the library committee.

On motion the report was received.

The report of the necrology committee was read and on motion of Dr. H. Unterberg, seconded by Dr. Bailey, the report was accepted.

A report of the committee on medical art exhibits was read and on motion received.

Dr. Funsch reported orally for the house committee.

It was moved that Dr. Amand Ravold be appointed a member of the house committee to complete the lounge project, the committee to have power to act. Seconded and carried.

Letters from the St. Louis Committee of the Madison Land Syndicate, the League of Women Voters of St. Louis, and the Baldwin Piano Company were read and no action taken.

A letter from the St. Louis Convention and Publicity Bureau was read concerning the 1929 conventions of the American Pediatric Society, American Association of Genito-Urinary Surgeons, and the American Gynecological Society.

It was moved that the Bureau be advised to get in touch with the local branches of these organizations. Seconded and carried.

Dr. C. H. Neilson presented a copy of letter and form of pledge for obtaining funds to liquidate the debt on the new building.

Dr. H. Unterberg moved that the Council approve the procedure suggested by the president, and if the returns are not favorable that the finances be readjusted by the Vosburgh plan. Seconded by Dr. Bailey. Carried.

Mr. Gordon W. Butler, of the Physicians Service Bureau, was present and requested the endorsement of the St. Louis Medical Society on a new enterprise offering various kinds of service for physicians.

The secretary was instructed to inform Mr. Butler that it was not the policy of the Society to endorse this or any similar proposition and that it would have to be sold to the members of the Society individually on its merit.

The report of the committee on health and public instruction was read.

On motion the report was accepted and in accordance with the recommendations of the committee, the president was instructed to appoint a special committee, to be composed of physicians having a special interest in the problem of tuberculosis, to complete the ideas brought to the attention of the Society by the Trudeau Club.

Councilors present: Drs. Bailey, Funsch, Gradwohl, Green, Hardesty, Krebs, Mayes, Neilson, Ravold, Reder, Unterberg, Vosburgh, Kieffer. Councilor absent: Dr. Schlueter.

Visitors present: Drs. I. H. Boemer, Walter Fischel, Major G. Seelig, Edgar F. Schmitz, Carroll Smith, O. B. Zeinert.

ROLAND S. KIEFFER, M.D., Secretary.

Meeting of May 1, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of April 24 were read and approved.

A letter was read from the Southwestern Bell Telephone Company telling of the postponement of the directory listings.

Dr. S. S. Levin presented a specimen of "Ovarian Cyst," weighing forty-six pounds.

The regular scientific program was given by the Dermatological Department of St. Louis University and consisted of the following:

"The Gold Treatment of Psoriasis," Dr. Noxon Toomey.

"The Davis Treatment for Pemphigus," Dr. G. V. Stryker for Dr. Robert H. Davis.

"Remarks on Recent Advances in the Therapeutic Uses of Gold and Arsenic," Dr. Joseph Grindon.

"Bismuth in Syphilis," Dr. Norman Tobias.

Discussions by Drs. Leland B. Alford, Henrietta A. S. Borck, Eugene R. Brown.

Attendance 60.

ROLAND S. KIEFFER, M.D., Secretary.

ST. FRANCOIS COUNTY MEDICAL SOCIETY

The St. Francois County Medical Society held a splendid meeting at State Hospital No. 4, Farmington, May 25, 1928. The guests included Drs. M. L. Klinefelter, St. Louis; W. Harry Barron, Fredericktown; R. W. Gay, Ironton.

The meeting was conducted by Dr. W. W. Johnston, Jr., Flat River, county health officer. About twelve cases of different forms of deformities, poliomyelitis, etc., were examined.

The principal speaker of the evening, Dr. M. L. Klinefelter, St. Louis, sent under the direction of

the Postgraduate Committee of the State Association, gave a very instructive lecture on the kind of fractures encountered by the country doctor and the method of reduction and treatment.

R. APPLEBERRY, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in the Knights of Pythias Hall at Mountain Grove, Thursday afternoon, April 26. Members present: Drs. J. A. Fuson and R. A. Ryan, Mansfield; F. B. Dailey, E. C. Wittwer and A. C. Ames, of Mountain Grove.

The following members of the Howell-Oregon-Texas County Medical Society were present by invitation: Drs. J. M. Coats and L. M. Edens, Cabool; J. R. Womack and W. F. Herron, Houston; L. E. Toney, E. Claude Bohrer, P. D. Gum, R. A. Sparks and R. E. Hogan, of West Plains; J. C. B. Davis, Willow Springs; D. D. Cox, Pomona. We also had with us Drs. D. L. Sexton and J. Hoy Sanford, of St. Louis, and H. A. Lowe, of Springfield, who furnished the scientific program.

The president and vice president both being absent the meeting was called to order at 3:00 p. m. by the secretary, Dr. A. C. Ames, Mountain Grove. Dr. J. A. Fuson, Mansfield, was elected president pro tem.

Four members were suspended from membership on account of being delinquent in the payment of their dues.

On account of vacancies in the office of board of censors by reason of suspensions from membership the secretary, Dr. A. C. Ames, Mountain Grove, appointed the following: Drs. F. B. Dailey, Mountain Grove, 1928; L. T. Van Noy, Norwood, 1928-1929; J. A. Fuson, Mansfield, 1928-1930. The secretary also appointed Dr. R. M. Norman, Ava., delegate, and Dr. E. C. Wittwer, Mountain Grove, alternate.

Dr. D. L. Sexton, St. Louis, read an interesting paper on "Disorders of the Thyroid."

"Problems of Urology" was the subject of a paper given by Dr. J. Hoy Sanford, St. Louis.

Dr. H. A. Lowe, Springfield, talked on "Surgery of Peptic Ulcer." These papers were fully discussed by several members present.

Dr. P. D. Gum, West Plains, representing the Howell-Oregon-Texas County Medical Society invited the Wright-Douglas County Medical Society to unite with them, but inasmuch as several members of our Society were absent it was deemed best to postpone any action until some future meeting.

After the meeting the members enjoyed a banquet at the Cote Cafe, with Dr. E. C. Wittwer, Mountain Grove, as toastmaster.

Mr. R. L. Lamar, Mountain Grove, an attorney, was the guest of the Society and delivered the principal address of the evening in which he compared the legal and medical professions to the credit of the latter.

A. C. AMES, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.
President-Elect, Mrs. M. P. Ravenel, Columbia.
1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. James F. Owens, St. Joseph.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.

Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Shaffler, Kansas City; Mrs. Hudson Talbott, St. Louis; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Hinchey, University City; Mrs. H. A. Brierly, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler.

ORGANIZED COUNTIES AND PRESIDENTS OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. R. W. Berrey.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph
Butler.....	Mrs. L. B. Knecht.....	Poplar Bluff
Cape Girardeau.....	Mrs. W. W. Ford.....	Gordonville
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Daviess.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. W. S. Campbell.....	Albany
Greene.....	Mrs. Paul F. Cole.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
Henry.....	Mrs. R. D. Hare.....	Clinton
Holt.....	Mrs. E. Hogan.....	Mound City
Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
Jasper.....	Mrs. C. C. Cummings.....	Joplin
Johnson.....	Mrs. H. F. Parker.....	Warrensburg
Knox.....	Mrs. W. F. O'Conner.....	Edina
Lafayette.....	Mrs. J. D. Guyot.....	Higginsville
New Madrid.....	Mrs. P. M. Mayfield.....	Portageville
Pike.....	Mrs. T. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Louis City.....	Mrs. Hudson Talbott.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slaters
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

HOW CASS COUNTY WON THE NATIONAL HYGEIA PRIZE

I am proud to be the president of the county auxiliary winning the National Hygeia Prize of \$50. I like to have a part in doing things and I feel that the auxiliary did something indeed in winning this prize. We won it by working hard and staying with it.

First, we raised sufficient funds by benefit bridge parties to place Hygeia in all the schools in the county; then, we tried to place it in as many homes as we could.

We put on an intensive drive which we termed Hygeia Week. During this week we had window displays in seven towns in the county with an auxiliary committee in charge to talk Hygeia and to receive subscriptions. (As a direct result of this week, we obtained thirty-five subscriptions.) We think the publicity given is responsible for many of our later subscriptions.

Next we tried to create an interest in Hygeia as a Christmas gift.

Our last effort was an appeal from our Hygeia Chairman, Mrs. David S. Long, to each auxiliary member to be responsible for three subscriptions—to obtain them if possible—to donate them if preferred—but by some means to send them in. Some responded with their quota, a few with more, some did not reply; but it made enough to put us over the top.

MRS. J. S. TRIPLETT.

FROM HYGEIA CHAIRMAN

Greetings from your new State Hygeia Chairman: Let us work for Missouri to win the prize of an automobile or a trip to Europe offered by a friend of the National Auxiliary to the first state whose auxiliaries send in 1000 subscriptions to Hygeia after Sept. 1, 1928. After the state prize has been awarded there will be another plan for the individual. Send your subscriptions to American Medical Association, 535 N. Dearborn Street, Chicago, care of Mr. F. V. Cargill, have them reach him by September 2. Write him for rates.

One year rate \$3.00, commission to Auxiliary \$1.25.
Two year rate \$5.00, commission to Auxiliary \$1.50.

Introductory offer, 5 months to new subscribers \$1.00, commission to Auxiliary 35 cents.

Mr. Cargill emphasizes the fact that these rates must be maintained. He cannot accept orders for less than the established price. The Auxiliary may purchase subscriptions with the commission earned.

We are proud of Missouri and Cass County winning the prize for last year.

Please send me the name of your Hygeia Chairman and let me know that you are at work.

MRS. W. T. MARTIN,
Chairman of Committee on Hygeia.

Notes

At the Minneapolis meeting of the National Auxiliary, June 11-16, Mrs. John O. McReynolds, retiring president, announced that a friend of hers had offered a prize of an automobile or a trip to Europe to the first state whose auxiliaries would send in 1000 subscriptions to Hygeia after September 1, 1928.

CASS COUNTY AUXILIARY

The annual meeting of the Cass County Women's Auxiliary was held at the home of Mrs. J. S. Triplett, Harrisonville, Thursday afternoon, June 14, 1928.

An interesting hour was spent in reviewing what had been done during the year and discussing work for the coming year. It was decided to stress Hygeia and sponsor a six and nine point child campaign in the county.

The following officers were elected:

President, Mrs. J. S. Triplett, Harrisonville; vice president, Mrs. W. L. Veirs, Pleasant Hill; secretary, Mrs. F. B. Ellis, Garden City; treasurer, Mrs. H. A. Brierly, Peculiar.

After the business meeting the ladies served a picnic supper to the members of the Cass County Medical Society, visiting physicians and their families.

SIXTH ANNUAL MEETING WOMEN'S AUXILIARY TO THE A. M. A. AT MINNEAPOLIS

Increased registration and attendance at the business meetings and social events marked the Sixth Annual Meeting of the Auxiliary to the A. M. A. held recently in Minneapolis.

The local committee of the A. M. A. and hostess organizations had arranged a varied and delightful program for the more than one thousand women registered.

At the request of the A. M. A., last November, the National Auxiliary assumed responsibility of arranging for and managing a Coffee Shoppe at the Auditorium, where hundreds of meals were served each day. This sizeable undertaking was well put through under the supervision of Mrs. F. L. Adair, of Minneapolis.

The Executive Board meeting which always precedes the Annual Meeting was held Tuesday morning at nine o'clock at the Woman's Club of Minneapolis, the President, Mrs. John O. McReynolds, of Dallas, Texas, presiding. Thirty states were represented. The President announced the anonymous offer from a personal friend of an automobile or a trip to Europe as a prize to the state first sending in after September 1, 1000 Hygeia subscriptions.

The subject of a concise bulletin to be sent to all members of the National Auxiliary was favorably considered, and a committee appointed with power to act provided it could be financed. Subsequent announcement of a quarterly has been made with the request for complete and correct membership lists from each state.

Immediately following the meeting the Executive Board were guests of the President at luncheon and a half hour of delightful music was presented in the beautiful lounge of the club by two of the artist members.

An afternoon drive around the lovely lake district for all visiting women was in the hands of the Ramsey County Auxiliary and included a stop for tea at the University Club of St. Paul.

In the evening everyone attended the splendid opening session of the A. M. A., presided over by the retiring President, Dr. Jabez N. Jackson, of Kansas City.

The following day was set aside for an all day Auxiliary meeting with luncheon at the Automobile Club of Bloomington, beautifully situated on the banks of the Minnesota River, a drive of forty-five minutes from Minneapolis. Six hundred women were in attendance, Mrs. Allen H. Bunce, of Atlanta, Georgia, incoming President, was introduced and presided.

The following program in charge of Mrs. George H. Hoxie, Kansas City, First Vice President and Chairman of Education, was given:

"Following Hygeia to Rural Schools," Mrs. A. B. McGlothlan, St. Joseph; "An Experiment in Health Education in Rural Schools By the Jackson County Auxiliary," Mrs. A. L. Skoog, Kansas City; "Health Films," Mrs. H. B. Trigg, Texas.

National officers of the A. M. A. were special guests at luncheon at 1:30 p. m. Wednesday. Speakers on the afternoon program were the following: Dr. Martha Welpton, San Diego, California, the only woman delegate to the A. M. A., who urged the women to study the new Newton bill intelligently; Mrs. Willard Bartlett, St. Louis, parliamentarian on the National Board, who gave a liberal construction to the subject, "Our Official Duties"; Dr. Lulu Hunt Peters, New York City, author and calorie expert, who gave an amusing talk, her query being, "Can a woman eat her cake and have it?" The answer was "No." "The person overweight already has a grand passion. It is food," said Dr. Peters.

Dr. William S. Thayer, of Baltimore, new President of the A. M. A., and a special guest, told the women their first consideration should be the promotion of public health. He added, "After we become acquainted we learn that the majority of men

are rather decent fellows and we are more ready to cooperate with them."

Dr. Jabez N. Jackson, Kansas City, outgoing President and also a special guest, said, "I have faith in the Women's Auxiliary. Preserve the quality of your leadership and avoid entangling alliances and her future is secure."

Among announcements made was the winning of the \$150 Hygeia prize, offered last year by Mrs. McReynolds, by Missouri and Cass County.

Missouri was further honored in the naming of Mrs. George H. Hoxie, of Kansas City, as President-Elect to serve during 1929-1930.

Among the Missouri women attending the meeting were, Mrs. A. W. McAlester, Mrs. George H. Hoxie and Mrs. A. L. Skoog, Kansas City; Mrs. Charles H. Neilson, Mrs. Willard Bartlett, Mrs. Edward C. Ernst, Mrs. W. G. Patton, Mrs. L. G. McCutchen and Mrs. Warren Rainey, St. Louis; Mrs. Wallace M. Bickford, Marshall; Mrs. A. B. McGlothlan, St. Joseph; Mrs. Jabez N. Jackson, Kansas City.

Each year shows a substantial growth and added interest in the Auxiliary. The next annual meeting will be in Portland, Oregon.

CHANGES IN OFFICERS

According to a provision in the By-Laws the Executive Board has filled the vacancies caused by the resignation of Mrs. J. F. Owens, St. Joseph, and Mrs. Hudson Talbott, St. Louis, of their respective offices by appointing Mrs. Owens Fourth Vice President and Mrs. Talbott Director, this exchange of office and attendant duties being mutually desired.

BOOK REVIEWS

LES INSUFFISANCES PANCREATIQUES. L'INSUFFISANCE PANCREATIQUE EXTERNE ET LES DYSPEPSIES PANCREATIQUES. L'INSUFFISANCE PANCREATIQUE INTERNE ET LES SYNDROMES DIABETIQUES. Par M. Chiray, Professeur agrégé à la Faculté de Paris Médecin des Hopitaux, et J. Lebon, Ex-Interne des Hopitaux de Paris Médecin des Hopitaux d'Alger. Paris: Masson et Cie, éditeurs. 1926 Price 20 francs.

This small book of 206 pages is full of valuable information to the gastro-entologist. The author says (free translation): "We have examined insufficiency of the external secretions of the pancreas from a clinic and biologic standpoint. For the latter we used all the old methods, such as examination of the feces, urine, blood, etc., and then the new methods of duodenal tubage, to which we have given particular attention. This was followed by studies looking to the treatment of insufficiency of the external secretion of the pancreas." The authors believe that there is such a thing as pancreatic dyspepsia, due to disease of the pancreas, but that it is rarely diagnosed by clinical methods alone. For there may be gross lesions of the pancreas, without pathognomonic symptoms to indicate it and that those which do characterize it are masked by symptoms of other digestive disturbances, independent of or associated with it. In their work they first studied, by means of the duodenal tube, the percentage of external pancreatic juice in the duodenum of normal individuals, then in diseases of the digestive canal. This was followed by a large series of experiments with various chemicals, hydrochloric acid, ether, magnesium sulphate, peptones, insulin, fats, pilocarpin, secretin, histamin, milk, etc., with the hope of finding one or more substances that would stimulate the pancreas to se-

crete increased quantities of the external juice. They finally succeeded in devising a method which proved efficient and enabled them to make, with certainty, diagnoses of diseases of the pancreas. A chapter on treatment which has grown out of their methods follows and is very instructive.

The second part of the volume is devoted to insufficiency of the internal secretion of the pancreas and its treatment with insulin and with diet, which, however, adds nothing to the work of Americans in this line. The authors show wide and intimate acquaintance with the literature of the subject and give due credit to the work of American, English, German, Italian and Danish scientists. It is a paper bound volume, printed in clear, legible type, with a good table of contents, but unfortunately no index.

Needless to say, it is well written and can be highly recommended to all workers in this field of medicine. A. R.

GONOCOCCAL INFECTION IN THE MALE. By Abr. L. Wolbarst, M.D., Urologist and Director of Urologic Clinics, Beth Israel Hospital, etc. With a chapter written by J. E. R. McDonagh, F.R.C.S., Surgeon, London Lock Hospital, etc. With eighty-nine illustrations, including seven color plates. St. Louis. C. V. Mosby Company. 1927. Price \$5.50.

This volume was written primarily for the poor benighted general practitioner and has for its particular message that gonorrhea as a pathological entity is worthy of most serious study and that gentleness rather than vigor in therapeutic attack is the keystone to successful results. It is well written by a urologist of ability and large experience, the chapter on Chronic Posterior Urethritis being particularly noteworthy for its sound advice. As is well known, no specific remedy for gonorrhea has been discovered, hence the number of drugs and methods recommended for treatment are legion. Out of these the author has selected the chemicals which have given him the best results in treatment and sets forth his methods clearly and succinctly. However, his faith in the value of the modern silver salts as curative remedies is not in accord with the experiences of a majority of urologists, nor with the views expressed by J. E. R. McDonagh, who has written a chapter for the book. He, in fact, is nihilistic in regard to treatment of the malady with urethral injections of any kind except very dilute solutions of potassium permanganate or oxycyanide of mercury. For internal treatment Wolbarst praises vaccines of a certain manufacturer, foreign proteins and intravenous injections of mercurochrome, acriflavine, etc. He stresses gentleness above all things in the treatment of the urethra and yet advocates the brutal silver catheter of Ultzmann for deep instillations in preference to the soft catheter of Guyon. The author also approves of diathermy in the treatment of acute gonorrhea, according to Corbus, a method that never had anything to recommend it and is now passing into well merited oblivion. McDonagh in his chapter expresses original views on oxidation and reduction therapy and is enthusiastic over intramuscular injection, for internal treatment, of symmetrical urea compounds (Sum 36) and (Sup 36) to increase general resistance, these to be followed by vaccines. He also declares that gonorrheal rheumatism responds in an extraordinary manner to contramin, alternating with vaccines. Typographically the book is excellent, well indexed and illustrated with numerous cuts and color plates.

A. R.

SCHIZOPHRENIA (DEMENTIA PRAECOX). An Investigation of the Most Recent Advances as Reported by The Association for Research in Nervous and Mental Disease. Volume V, with 61 illustrations. New York: Paul B. Hoeber, Inc. 1928. Price \$7.50.

Though this volume comes off the press nearly three years after the proceedings were held, it nevertheless expresses as well today as it did then the current ideas prevailing regarding dementia praecox. It is particularly valuable in that there has been a very obvious need for a review of this entire subject which from the beginning of psychiatry has occupied such a prominent place among our mental disease concepts. There is throughout the volume quite noticeable a prevailing haziness of statement, this, however, not being due in all probability to any particular contributor as much as it is due to our continued lack of definite knowledge of the disease itself. It cannot be said that the book adds anything to our knowledge of schizophrenia. It is valuable for bringing together previously acquired knowledge in a compact form so that it may be more easily accessible. The majority of the chapters are clearly expressed and well edited. The reviewer cannot see that the discussions at the conclusion of each section have added anything of intrinsic value.

F. M. B., Jr.

THE PRINCIPLES OF SANITATION. A Practical Handbook for Public Health Workers. By C. H. Kibbey, Director of Sanitation, Tennessee Coal, Iron and Railroad Company, Birmingham, Ala., etc. With 34 illustrations, including 5 color plates. Philadelphia. F. A. Davis Company, Publishers. 1927.

The author in his Foreword says, "This little book was written for hundreds of 'Sanitary Inspectors' throughout the country; many of whom received appointment because of long service as policemen or in some such-like capacity, others because of some political influence and almost none because of their knowledge or ability as sanitarians." * * * "An effort is made in the following pages to convey a working knowledge of the infective agents; together with the various means by which they may be transferred to one another, with a view to having preventive measures suggest themselves."

"Transferred to another" what and why? There are a number of ambiguous sentences of this kind in the book, but as it is written for untrained "Sanitary Inspectors" obscurities in sentence construction will very probably escape notice. The punctuation is amateurish and the proof-reading slipshod.

The chapters on Fly Control, Water, and Milk are good, and all in all the volume can be recommended to those for whom it is written. This much can be said in its favor,—the book has a neat appearance, is well printed in clear, legible type, on good paper and is well indexed and illustrated.

A. R.

DISEASES OF THE GALLBLADDER AND BILE DUCTS; A book for practitioners and students. By Evarts Ambrose Graham, A.B., M.D., Warren Henry Cole, B.S., M.D., Glover H. Copher, A.B., M.D., and Sherwood Moore, M.D., Philadelphia: Lea & Febiger. 1928. Illustrated with 224 engravings and 8 colored plates. 447 p. Price \$8.00.

It seldom falls to the lot of the book reviewer, either casual or veteran, to experience the thrill of complete approval. The critic is essentially a lily painter and subconsciously he feels the urge to point out slips, errors and fallacies, to suggest improvements and alterations, to damn with faint

praise or to indulge in that most refined critical cruelty—unqualified disapproval.

With this volume, the hypercritical reviewer would have a hard time, for the book almost commands complete assent. The reason is not far to seek. It represents a combination of talent directed toward a very definite target. The target is one requiring both high aim and accurate marksmanship. The score, it seems to the reviewer, is a "bull's eye."

For the past decade and a half any discussion of the extrahepatic biliary tract meant bandying the names of Naunyn, Aschoff, Bachmeister, Kehr, Rokitsansky, Sudler and a few others. These were the masters and they had spoken! But all the while they were building new theories, new facts and new hypotheses that were scattered here and there and everywhere, some available, some inaccessible, but none of them in the broadest sense, general property.

Along comes Graham and his coworkers; they develop the method of cholecystography; they dovetail this admirable piece of work with the other newer data regarding the gallbladder and bile ducts and fuse it all into an indispensably practical book by clear descriptions of the technic necessary for the surgical cure of gallbladder and bile duct disease.

There is a very full exposition of cholecystography, to which five chapters are devoted. This is not too much space and it does not lend any imbalance to the book, for cholecystography is one of the most important aids that has been furnished to diagnosticians. If one did not wish to avoid a cliché, he might refer to the discovery of cholecystography as epochal. As it is, the German phrase *bahn brechend* is better, for it signifies trail blazing.

Anatomy, physiology, pathology, symptomatology, liver function tests, the phenomena underlying jaundice, radiological interpretation and an infinite number of related topics are discussed in most complete fashion. The chapter on operative technic is excellent. The book is a surgical necessity.

M. G. S.

STRABISMUS. ITS ETIOLOGY AND TREATMENT. By Oscar Wilkinson, A.M., M.D., D.Sc., Surgeon in Chief of Washington Eye and Ear Hospital, Washington, D. C. Illustrated. St. Louis: The C. V. Mosby Company. 1927. Price \$10.00.

This new book covers the subject of strabismus in an orderly fashion. The author begins with some very interesting historical remarks and leads the reader through several didactic chapters on the anatomy and physiology of the ocular muscles and finally discusses modern methods in the treatment of strabismus.

The importance of early treatment, i. e., as soon as the condition is recognized, is justly stressed and the evils of delay in securing expert management are clearly stated.

The operative treatment of strabismus is presented in some detail as an exact surgical procedure. All of the tried surgical methods are discussed, some only to be condemned and some to show the advantages of methods requiring more technical skill than possessed by the mere "muscle snipper."

The author's own excellent and safe procedure—advancement of the externus with temporary "splinting" of the internus—is given in detail.

The book is freely illustrated and many photographic reproductions show the results that may be expected in the various types of squint.

It is clear that the author has deeply at heart the welfare of the oft-neglected cross-eyed child. Every discerning reader will greatly benefit from following Dr. Wilkinson's advice in the management of these cases.

J. G.

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ORIGINAL ARTICLES

EDUCATING THE RURAL PUBLIC TO APPRECIATE THE COUNTRY DOCTOR*

ADDRESS OF PRESIDENT-ELECT

FRANK I. RIDGE, M.D.

KANSAS CITY, MO.

Twenty-five years ago I sat back there in the audience little dreaming that the time would come when I should stand here in a big white "front" and attempt to keep an audience interested by talking—and I am not going to talk very long.

It may seem rather strange that I, a city doctor, should be assigned this subject. But as a matter of fact the subject is of my own choosing. From my observations in traveling about the state and interrogating both doctors and laymen, I have about come to the conclusion that the need is not so much one of educating and graduating more doctors as it is the need for intensively educating the public in the rural communities to appreciate the doctors they have in their own locality. The young man does not locate in the smaller towns because the people will not support the young physician. Henry Smith may graduate from high school, go to the university, take a medical degree, intern in a good hospital, come home and marry, say "hello" to the folks, move to the city and open an office. The neighbors, the populace will develop all kinds of ailments just to go to Henry Smith, pay big fees, boast about it, and like it. Let Henry Smith with the same background and the same equipment locate over the bank in the small town and no one outside of the grandmother, the druggist, and perhaps the banker who loaned him money will be interested,—unless it is some-

one who wants to inquire about a hired hand who is not on the job and is too poor to go to the "City Henry" and too poor to pay the "Local Henry."

At the present time there is no such animal as the young country doctor. The apprentice system of medical education is a system of the dim past. Today medical education is almost universally standardized and regulated. There is required so many years of preliminary education; four years of medical education; so many hours of this and that specialty and a year of practical experience and rigid supervision. The "Urban Henry" is no better equipped than the "Rural Henry." Some of them on completion of their education and training, having a little more sense and a better perspective than others, attempt to locate in the rural districts. They are interested only in their profession and are prideful of their calling. It is from these that we recruit our great doctors—our Oslers, McKenzies and Mayos. They grow in medicine and do not shrink into specialization but are specialists in medicine. I am frequently asked by people, "Doctor, what is your specialty?" and I invariably answer "The skin and its contents."

The people of the rural communities do not appreciate these men who are fearless enough to practice medicine and the *healing* art. They do not realize that these men are as competent as their classmates who locate in the city. These men are trained to diagnose and *treat* the sick. They have all the advantages that most city doctors have, and what is more, they make use of them. They are not blasé. They read medical literature, they attend medical meetings, clinics and conferences. I will venture the assertion that sixty per cent. of the enrolment in the larger postgraduate clinics are rural doctors. They never learn all they want to learn, as do some urban specialists; nor have they an inferiority complex. In the great majority of cases they are, I believe, more competent to diagnose their patient's ill-

* Delivered at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

ness than are the muddled, uncorrelated, so-called diagnostic clinics. Of course, they don't put on such a big show, but they arrive at their own conclusions directly and not through any back door. They know from association your familiar psychology, your hereditary weaknesses. They know upon which slope of the hill you dwell. They know that in the summer time living on the north slope you are liable to be a little low in spirits and suffer a little more from the heat than if you lived on the south slope. They know the source of your water supply. They know about your diet. They know your financial, social and religious troubles, and in addition, are living, thinking, medically trained human beings not mechanical machines for precision. They are physicians.

These men are taught and know the sequelae of bad teeth; but they are not going to extract all your teeth and get you fitted out with a custom built set just because they can find no obvious reason for your insomnia, worry, absent-mindedness and the loss of weight. They probably know that you have been working overtime, your note is past due at the bank, your hogs are dying of cholera, and your son is flunking out at the university. These men don't have to take you to pieces and separate the parts to tell you that you have appendicitis; you don't have to have your eyes diagnosed when you have a pain in your toe. Theirs is not piece work; theirs is a study of the whole physiology, anatomy and psychology. They talk to you, examine you in the most likely regions according to your story, tell you what to do, and try to give you relief from pain and not a diagnosis.

The present day diagnostic clinic heart specialist does not listen to a heart or take a pulse. As a matter of fact, he may not even see you. A technician, perhaps a high school graduate, hooks you up and tunes you in on a radio-like machine. The specialist sees a movie photograph of your static reaction and tells you that you are suffering because of a bloc in your right bundle branch. So much and no more. That is your diagnosis—the machine makes it clear.

On the other hand, when you go to your home physician he will watch your breathing, take a look at your ears, your finger nails and your ankles. Ears and finger nails can tell one much about a heart function. He will find out how far you can walk and how many pillows are necessary for sleep. He will actually feel your pulse and listen to your heart and lungs. If you mention your right branch bundle bloc, he will tell you that he is not sure whether it is

right branch, big creek, or the southeast quarter, but he is sure that your heart is not working efficiently. Then he will set about to steady your heart, relieve your liver congestion, stimulate your kidneys, regulate your diet, and pull your circulation together. He will give you more treatment than diagnosis, but you will feel better. He also knows the diagnosis. True, his work is not nearly so dramatic or so impressive a show as that of the clinic specialist who graduated two years ago and since then has been working solely on electrical mechanical reactions.

I think the chief reason why younger doctors do not locate in rural communities is simply because the rural people will not and do not support good doctors,—except veterinarians. They think and reason that any young man who comes back to the country either can't make good in the city or else is just a fool. Such is not the truth. There are many good men in the cities today who moved from the country, were born in the country, raised in the country, love the country, want to live in the country, but the country will not support their own. This reaction holds true not only in medicine but is general. Rural people will go to the cities and pay much more for the same dress that they can buy on Main Street. They will go to the city and pay additional freight on a standard make of automobile—yet they expect the rural merchant and the rural doctor to deliver only the best, and then they go to the city to make their purchases.

Here are your statistics. In 1920 there were in the state of Missouri 5921 doctors. Of this number, there were in St. Louis, Kansas City, and St. Joseph, less than half. Over fifty per cent. were in the rural districts (51%), and less than fifty per cent. of the population were outside of the three mentioned cities. Without going into detail the figures show that the number of doctors in the rural communities has decreased five per cent. in the last seven years and the population has decreased in these same communities fifteen per cent. So it is not that there are too few doctors to supply the rural communities. It is the failure of the ruralites to appreciate and supply the doctor. Any community can have any kind of a doctor it wants. It can make its doctor as high class as it wants and it can demand the best, if it wants hard enough to support the best.

No well trained, intelligent country boy is going to start in his home town when he can build a larger practice by having his home town people come to the city to consult him. "A prophet—in his own country."

PRACTICAL POINTS IN THE FEEDING AND CARE OF INFANTS*¹

McKIM MARRIOTT, M.D.

ST. LOUIS

Infant feeding is in reality simple, but has been made unnecessarily complex through a lack of understanding of the fundamental factors involved. In the infant we have to deal with a rapidly growing individual having a large food requirement but a limited digestive capacity; a helpless individual unable to care for or feed himself and unable to make an intelligent selection of food, ready to take any food offered, suitable or unsuitable, up to the limits of his stomach capacity or beyond. The infant, furthermore, is peculiarly susceptible to infections some of which when present are difficult to detect and to treat and exert a profound effect upon the nutrition.

Since the infant cannot choose food for himself, it is necessary to consider carefully the composition of the food in order to meet all the nutritional requirements; and since the digestive capacity is limited the choice of foods is necessarily limited to those which are readily digestible. Since the infant is susceptible to bacterial infections in the intestinal tract, as well as elsewhere in the body, it is essential that the food be free from any bacteria capable of causing harm.

Any form of feeding in order to be successful must meet the following requirements:

1. Must provide sufficient calories.
2. Must contain a certain minimum amount of protein, carbohydrate, mineral salts, water and the four vitamins A, B, C and D. It is of advantage for the food to contain fat and pigment but these two constituents are not absolutely essential.
3. Must be free from any considerable number of harmful bacteria.
4. Must be capable of digestion by the infant in the amounts given.

Any form of food which meets all the above requirements will be successful unless the infant is suffering from disease. Failure to fulfill any one of the requirements results in failure of the feeding as a whole.

Breast milk from a healthy mother, when taken in sufficient amounts by the infant, fulfills all requirements. It is the simplest

and the best feeding for the normal baby. It is not necessary to assume any peculiar or mysterious qualities of breast milk in order to explain its superiority over artificial food. It is clean, as it comes direct from producer to consumer; it contains all the necessary food elements and when taken in amounts up to the infant's stomach capacity is digestible and supplies sufficient calories for the infant's needs.

In the preparation of an artificial food, on the other hand, some of the essential elements are likely to be left out. An insufficient total amount may be given because of dilution of the mixture, or the food may be beyond the digestive capacity of the infant, or may be contaminated by harmful bacteria.

If, however, one has a full realization of the essential qualifications of the diet, it is possible to feed normal infants satisfactorily on mixtures of cow's milk and sugar supplemented after the sixth month with additional articles of diet such as cereals and green vegetables.

Any food no matter how digestible will be unsuitable unless it supplies a sufficient number of calories or fuel units. Failure to give sufficient calories has been the cause of more difficulties in infant feeding than any other one factor. A normal infant will rarely thrive unless he receives approximately 50 calories per pound of body weight per day. An undernourished infant will not thrive unless he receives almost as many calories as a normal infant of the same age. For example, a normal infant of six months, weighing 15 pounds, will need approximately 15×50 , or 750 calories a day; an undernourished infant of six months, weighing only 8 pounds, will also require very close to 750 calories, which will be almost 100 calories per pound. The calculation of calories in the diet is extremely simple. Milk contains 20 calories per ounce and sugar 120 calories per ounce.

The second requirement for successful infant feeding is that the diet must contain certain essential elements in sufficient amounts. These are protein, carbohydrate, mineral salts and vitamins. The requirements for protein, mineral salts (except possibly iron) and some of the vitamins are met if the infant receives one and one-half ounces of cow's milk per pound of *expected* body weight per day, or one-tenth of the body weight. With lesser amounts of milk than this, nutritional disturbances are likely to result, although an infant may for a

*Read at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

1. From the Department of Pediatrics, Washington University and the St. Louis Children's Hospital.

time thrive on as little as 1 ounce of milk per pound of body weight.

Additional carbohydrate in the form of sugar should be added. The proportion between milk and sugar is of importance, the optimum proportion being approximately 11:1. Too little sugar results in a slow gain in weight, a tendency to constipation and involves the necessity of taking excessive amounts of fat and protein to make up the necessary calories. Too large an amount of sugar in proportion to the milk may lead to a condition of rapid gain in weight, hydremia and lack of resistance to infection, these effects being due to a deficiency of the milk as much as to an excess of carbohydrate, for when there is too much sugar present the appetite is satisfied and the caloric needs are met without at the same time meeting the needs of the body for the other constituents of the milk.

When the amounts of milk indicated are given there is no deficiency of the B vitamin. Additional A and D vitamins should, however, be supplied in the form of cod liver oil, one-half teaspoonful 3 times a day, during the first half of the first year, and 1 teaspoonful 3 times a day afterwards. One to two tablespoonfuls of orange juice given daily will supply the necessary C vitamin and should be administered to all artificially fed babies. Fat is a valuable constituent of the diet as it has a high caloric value. It is less readily digested than either protein or carbohydrate, but the amount of fat in average whole cow's milk (mixed herd) is not beyond the digestive capacity of the infant when the quantities of cow's milk given are those recommended above. It is not necessary to enrich milk by cream additions or to skim the milk used for infant feeding.

Pigment, such as is contained in green vegetables, is valuable in that it provides part of the constituents of the hemoglobin molecule. Infants receiving green vegetables from the sixth month on are less likely to be anemic at the end of the first year than those fed exclusively on milk.

The third requirement is that the food must be uncontaminated by harmful bacteria. A satisfactory method of accomplishing this is to boil all milk given to the infant. The boiling also renders the food more digestible and does not impair its nutritional value. Pasteurization is somewhat less effective. Raw milk should under no circumstances be fed to babies. *Unsweetened* evaporated milk is of especial value because of its absolute sterility.

In general, cow's milk is not as readily

digested by young infants as is breast milk, although many infants can take undiluted cow's milk in approximately the same amounts as breast milk without digestive disturbances. As there are many infants who cannot digest such an amount of cow's milk it is usually necessary to feed smaller amounts at a time and this is accomplished by diluting the milk with water. This ensures the baby's taking a smaller actual amount of milk even though the stomach be filled with the dilute mixture.

The relative indigestibility of cow's milk is largely due to the presence of a "buffer substance" capable of neutralizing the gastric juice and intestinal secretions. An effective means of eliminating the influence of the buffer substances in cow's milk is neutralization with some form of acid. Lactic acid is especially suitable for this purpose. If cow's milk is soured by the growth of lactic acid producing organisms, such as the *Bacillus acidophilus*, or the Bulgarian bacillus, or if sterilized cow's milk is acidified by the addition of a small amount of pure lactic acid, the milk becomes approximately as digestible as breast milk and can be fed in the same amounts; that is to say, it can be fed safely without dilution even to young infants up to the stomach capacity.

In applying the principles mentioned to the practical feeding of infants a satisfactory formula for use during the first year is prepared by adding 3 ounces of sugar to one quart of milk. This provides the proper proportion between sugar and milk. The most satisfactory form of sugar, as well as the cheapest, is ordinary Karo corn sirup. This is the commercial food product obtainable in grocery stores. It is a mixture of dextrin and maltose with some glucose and a little cane sugar. It is prepared by the hydrolysis of starch. The dextrin is not readily fermented by intestinal bacteria and the maltose and glucose are quickly absorbed. This form of sugar can be fed safely in somewhat larger amounts than cane sugar. Ordinary cane sugar may be substituted for the Karo sirup, without any special harm, in the case of most normal infants.

When sweet cow's milk is used, the milk and sugar mixture mentioned should ordinarily be diluted with an equal volume of water in the case of infants under one month of age, or infants unaccustomed to cow's milk. After that age the water should be gradually decreased and the milk correspondingly increased until at about four months the infant will be receiving two-

thirds milk and one-third water and by the age of nine or ten months undiluted milk. Putting it in another way, the young infant may be given milk diluted with an equal volume of water and with the addition of one-tenth of an ounce of sugar for each ounce of milk in the final mixture. After six months of age, when cereals are added to the diet, from one-third to one-half of the sugar may be omitted. Some infants will be able to take the sweet milk mixtures undiluted much earlier than others, perhaps by the second month. This will depend upon the individual digestive capacity. The bottle should not be offered more often than every three and a half to four hours, preferably every four hours, and the infant given as much as he will take readily.

Unsweetened evaporated milk possesses a number of advantages over ordinary cow's milk for the preparation of the milk formulas mentioned. The chief advantage of evaporated milk is that it has already been completely sterilized and because of the heat treatment it forms very fine curds in the stomach. The fat present has been homogenized so as to form very fine globules. It is of uniform composition, easily obtainable and is cheap, and when used in the preparation of formulas does not require further sterilization. Evaporated milk is whole cow's milk from which a little more than one-half of the water has been separated. In making up the formulas, therefore, the evaporated milk should first be diluted with an equal volume of water to give the equivalent of whole milk and then used exactly as ordinary milk. Or, putting it in other words, one-half as much of the evaporated milk should be used as whole milk and the difference made up with water. Because of the easier digestibility of evaporated milk, the formulas can safely be made somewhat stronger than in the case of ordinary milk. *Evaporated* milk should not be confused with sweetened *condensed* milk, which latter is prepared by the addition of a considerable amount of cane sugar and cannot, therefore, be used in the same way.

When acidified milk is used instead of sweet milk no dilution is necessary nor even desirable. The proportions of sugar and milk are 3 ounces to the quart and the baby is given all he will take at four-hour intervals throughout the first year. As this type of food is concentrated, supplying a great many calories, it is not necessary to give more than 5 feedings a day after the first month and many infants, after the second month, will do well on only four feed-

ings a day and will not wake up from hunger during the night. The same formula is used throughout the first year with the exception that the sugar is decreased as cereal starches are added to the diet during the latter half of the first year.

In preparing the lactic acid milk and sugar mixture, one may start with bacterial-ly soured whole milk; or, in case this is not obtainable, milk soured with U.S.P. lactic acid may be substituted. The method of preparation of the latter is as follows: One quart of milk is brought to a boil and *thoroughly* cooled. The scum is removed and 1.5 drams (6 cc.) of lactic acid U.S.P. (75 to 85 per cent.) is added, drop by drop, while the milk is stirred. The first half of the acid may be added rapidly, but the remainder must be added slowly. If the acid is mixed with 2 or 3 ounces of water or with water and corn sirup it may be poured in quite rapidly without forming large curds. It is important in any event that the milk should be thoroughly cold before the acid is added. After the milk is acidified, 3 ounces by volume of corn sirup is stirred in and the feeding bottles for the day are filled. The infant may be offered as much as he desires at four-hour intervals. There is little or no danger of overfeeding on this type of formula.

A formula having the same general composition as that just described may very conveniently be made from unsweetened evaporated milk.

In using evaporated milk for the preparation of lactic acid milk formulas, the usual dilution is 1:1, as evaporated milk is approximately doubly concentrated. To the half diluted milk, 10 per cent. by volume of Karo sirup is added and then ten drops of lactic acid, U.S.P., to each ounce of evaporated milk used in the mixture, or five drops to each ounce of the final mixture.

A preferable method of preparing the formulas and one that we have generally used consists in the mixing of evaporated milk with an equal volume of an acid-sugar mixture. The formula which we have used almost as a routine is prepared as follows:

ACID-SUGAR SOLUTION

Karo corn sirup (brown).....	
.....	90 cc. (3 oz.) (6 tablespoonfuls)
Lactic acid, U.S.P.....	5 cc. (1 teaspoonful)
Water.....	to 500 cc. (1 pint)

The sirup is mixed with some water, the lactic acid added, and the whole made up to the final volume. The mixture should if possible be kept in a cool place, but on ac-

count of its high acid content it keeps perfectly for one or two days even at ordinary temperatures. In making up the feedings, equal parts of unsweetened evaporated milk and the acid-sugar solution are mixed. This is done by pouring the acid solution into the milk, which is then mixed by stirring or shaking. An entire day's feeding may be prepared at one time, or, as is often more convenient when traveling, a single small can of evaporated milk may be opened fresh for each feeding, the feeding bottle being half filled with the milk and the acid-sugar solution then poured in. The bottle then needs merely to be shaken, warmed to body temperature and is ready for feeding.

The formula given is the usual one for babies during the first six or eight months. It can, of course, be varied in individual instances. The amount of sugar is decreased after cereal is taken. The formula as prepared is equivalent to whole lactic acid milk with approximately 10 per cent. added sugar. The fuel value is 30 calories per ounce.

The simple mixtures recommended are all that are necessary for the feeding of normal and most sick infants, and are superior to any of the patented baby foods on the market.

Probably the chief cause of failure of artificial feeding is the giving of an insufficient number of calories. Many of the customary whole milk dilutions as finally made up have only from one-half to two-thirds as many calories to the ounce as does breast milk. Infants taking these mixtures therefore receive actually less food than breast fed infants and for that reason alone cannot be expected to do well. Young, undernourished and weak infants are often unable to take as much sweet whole milk as is necessary for their nutritional requirements. In such instances one should resort to lactic acid milk mixtures. Another frequent cause of failure, and one usually associated with the above, is the administration of too small an amount of protein, or in other words too little milk in the mixture. Many of the difficulties attributed to high sugar feeding are in reality not due to high sugar, but to low protein, and at times lack of vitamins.

Another very common cause of difficulty in artificial feeding is bacterial contamination of the food. This can be avoided if the precautions mentioned are observed.

Not infrequently infants vomit, have loose stools and more or less fever. There is a tendency to blame the food for the difficulties but it is well to bear in mind that

if the food is an ordinarily suitable one, the trouble is due to infection and not to the food; nor will the trouble be remedied by changing the formula. The proper procedure in treatment is to examine the ear drums, throat, chest and urine and, having found the source of infection, to treat it appropriately.

Diarrhea is a frequent symptom in infancy. In our experience the chief causes of diarrhea are infection and underfeeding. The infection may be in the intestinal tract and due to such organisms as the dysentery bacillus. In such cases the disease will continue until the body develops sufficient antibodies to overcome the effects of the infection. The type of feeding will have relatively little influence on the course of the disease. In the treatment of dysentery we strive to maintain the infant's nutrition by giving as much food as possible without definitely increasing the diarrhea. In this condition fats seem to have an especially irritating effect on the intestinal tract. An infant had best, therefore, receive skimmed milk or skimmed lactic acid milk. The best form of sugar is corn sirup, or commercial dextrin. One or two ounces of either of these sugars may be added to the day's feeding with safety. Water must be given to these infants in large amounts, by gavage if necessary, or even intraperitoneally or subcutaneously. The frequent injection of 20 per cent. dextrose intravenously is of great benefit. The amount given should be 1 ounce of the 20 per cent. solution for each 3 to 4 pounds of body weight. Drugs are of but little benefit. Bismuth accomplishes nothing. Paregoric is indicated provided there is no abdominal distention. This drug seems to relieve the pain and tenesmus and to make the movements less frequent. Argyrol seems occasionally to exert a beneficial effect. It should not be given for more than two or three days at a time. The method of administration is to give the child a watery solution of 1:500 argyrol to drink, and to add argyrol to the milk mixtures just before feeding so as to bring the strength to 1:300. This is accomplished in the case of water by adding 1 tablespoonful of argyrol to 8 ounces of water. The amount added to the milk feeding is 1 teaspoonful to 5 ounces.

Dysentery infection is not nearly as frequent a cause of diarrhea in the Northern States as in the South. A more frequent cause in the North is parenteral infection, especially middle ear conditions. Parenteral infections with the streptococcus are

much more likely to lead to severe watery diarrhea than other types of infection. Many of these infants have streptococcus infections of the mastoid antral cells. In such infections the usual local signs of mastoid involvement, such as swelling, redness and tenderness, are absent. About the only local sign of value is a bulging of the posterior superior wall of the canal just at the junction with the tympanic membrane. In these cases the simple operation of mastoid antrotomy results in almost immediate improvement in the diarrhea. The operation is readily performed under local anesthesia and has, we believe, resulted in the saving of the lives of a good many of our patients. This is a form of infection not usually recognized, and a very important one.

If the infection causing the diarrhea can be found and treated it is not necessary to change the feeding. These infants should not be starved. They should be given a relatively high caloric diet of undiluted lactic acid milk with moderate amounts of added Karo sirup. The diarrheas get no worse when this sort of food is given than when very dilute milk mixtures are fed, and the general condition of the infant is certainly much better. In any form of diarrhea, of course water must be given in large amounts by all possible means. The intraperitoneal injection of normal saline is the most satisfactory method we have of introducing large amounts.

Underfeeding is a more frequent cause of diarrhea than seems to be generally recognized and this is true of babies at the breast as well as those artificially fed. In these cases the giving of extra food usually results in a cure of the diarrhea.

Gross overfeeding or the giving of unsuitable or indigestible articles of diet can, of course, lead to diarrhea, but these are relatively rare causes. The treatment of diarrhea then consists in locating and treating any parenteral focus of infection and the administration of a diet which fulfills the qualifications necessary for maintaining the nutrition. When these two things are done the diarrhea itself may be practically disregarded. It is not necessary to resort to various proprietary foods and unusual milk mixtures. Having once decided on a type of feeding, the formula should not be changed except for the most distinct indications. Especially to be avoided is frequent juggling of the formula in the effort to eliminate some one constituent suspected of causing indigestion. Such a method results almost invariably in gross underfeeding.

JUVENILE ATROPHY OF THE OPTIC NERVE

H. D. LAMB, M.D.

ST. LOUIS

As a cause of blindness in children and adolescents optic atrophy has not received the attention it deserves. Of 559 pupils in attendance at the Missouri School for the Blind during the last 23 years, 84 or 15 per cent. had lost their sight from optic atrophy, the second largest single cause of blindness. However, in our figures below, only those cases are included whose visual disturbance occurred under 20 years of age. In this way we avoid cases of optic atrophy resulting from acquired syphilis. There were no cases of Leber's hereditary optic atrophy.

The 73 pupils blinded before 20 years of age by optic atrophy entered the school in the school years indicated. The percentage figure after each school year is estimated on the number of new pupils for that year.

TABLE 1. *Number and percentage of atrophy for each five year period and for last period of three years*

Years	Number	Per cent.	Total
1895-1900	1		
1900-1903	3		
1903-1905	1		
1905-1906	1	4	17—16%
1906-1907	2	13	
1907-1908	6	20	
1908-1909	4	20	
1909-1910	4	20	
1910-1911	6	30	15—13%
1911-1912	2	10	
1912-1913	2	6	
1913-1914	3	33	
1914-1915	2	7	
1915-1916	0	0	13—12%
1916-1917	4	15	
1917-1918	2	8	
1918-1919	5	29	
1919-1920	2	13	
1920-1921	1	5	18—13%
1921-1922	6	17	
1922-1923	6	17	
1923-1924	1	4	
1924-1925	4	20	
1925-1926	2	11	5—10%
1926-1927	1	6	
1927-1928	2	11	

A gradual diminution in the amount of juvenile optic atrophy in this school is clearly indicated although the changes are not great. Nevertheless the number of optic atrophy cases among new pupils entering the school between 1920 and 1925 was two more and between 1925 and 1928 was one more than the number of cases of ophthalmia neonatorum entering in the same periods.

Forty, or 55 per cent. of the 73 juvenile optic atrophy cases are boys and 33, or 45

per cent. are girls; 3 of the boys and 1 of the girls are colored.

As to the cause, in 10 of the 73 cases, meningitis was given on the application form, tumor of the brain in 3 cases, typhoid fever in 2, scarlet fever in 1, hydrophthalmus in 1, cyst of the brain in 1, tower skull in 1 and purpura hemorrhagica in 1; we have no reason to doubt these disorders as the essential etiological factors in these 20 cases of juvenile optic atrophy. However what shall we say regarding the remaining 53 or in 73 per cent. of our entire number of 73 cases. The Wassermann test on the blood was made in but 38 of our 73 cases (the test as a routine on new pupils was not begun until 1917). There resulted 8 with plus four and 1 with plus two among the 38 tested.

Three of these 53 cases had epileptic seizures, 2 were imbeciles, 1 had infantilism, 1 was unstable in station and gait, 1 had monolateral weakness and one was partially deaf.

The determination of whether the atrophy was primary or secondary in the 53 cases of unknown cause was noted in only 11 cases. Nystagmus is often so annoying as to make it impossible to differentiate accurately. Of the 11 cases, 8 were primary and 3 secondary atrophy.

TABLE 2. *Vision*

<i>Amount of Vision</i>	<i>No. of cases</i>	<i>Per cent.</i>
O.....	30	41
L. P.	11	15
L. P. to 5/200.....	20	27
5/200 to 20/200.....	10	14
20/200 to 20/80.....	2	3

TABLE 3. *Ages Entered School*

<i>Age</i>	<i>No. of cases</i>	<i>Per cent.</i>
5-10.....	18	25
10-15.....	26	35
15-20.....	20	27
20-25.....	7	10
25-30.....	2	3

TABLE 4. *Ages Lost Sight*

<i>Age</i>	<i>No. of cases</i>	<i>Per cent.</i>
Before birth.....	21	28
0-5.....	11	15
5-10.....	23	31
10-15.....	10	15
15-20.....	8	11

TABLE 5. *Size of communities where cases were born*

<i>Cities</i>	<i>Total population for each community (1920)</i>	<i>No. of cases</i>	<i>Per cent.</i>	<i>to each 100,000 of population</i>
100,000 and more.....	1,097,307	27	37	3
100,000-5000.....	379,155	9	12	1
5,000-100.....	658,739	21	29	2
100 and less.....	1,268,854	11	15	1
Doubtful.....		5	7	
Totals.....	3,404,055	73	100	

Among 1272 pupils attending 10 schools for the blind in this country during the last 15 years, 223, or 17.5 per cent. had lost their sight from optic atrophy—the greatest single cause. We thus see ophthalmia neonatorum again surpassed as the greatest single cause of blindness in youth. A shifting of forces is thus plainly indicated in work for the prevention of blindness.

Among 254 adult cases of optic atrophy in St. Louis City and the five counties of the state having populations greater than 60,000, 18, or 7 per cent. had lost their vision under 30 years of age.

Mr. N. Bishop Harman¹ reported 222 cases of optic atrophy with or without disseminated choroiditis among 1100 children in London schools for the blind, a percentage of 20.2 per cent. the second highest single cause of blindness. The author also stated that in 125 of these 222 children syphilis was definitely present, in 13 syphilis was probable and in 64 there were mental defects. The association of optic atrophy and disseminated choroiditis has not been observed by us.

Dr. H. Frese² found 143 cases (98 boys and 45 girls) of optic atrophy among 849 youthful blind students at the Federal Institute for the Blind at Steglitz, Berlin, a percentage of 17 per cent., the second largest single cause of blindness.

Are we justified then in saying that congenital syphilis was the probable cause of the optic atrophy in our 53 less 9 (cases having positive Wassermann tests) or 44 cases of optic atrophy of unknown origin?

According to Japha,³ Heine⁴ and Mohr and Beck,⁵ optic papillitis is uncommonly frequent in luetic infants. Heine⁴ found among 60 luetic infants 55 cases of optic neuritis.

Igersheimer⁶ and Fehr⁷ did not find in their own cases that this change was so frequent in syphilitic infants.

Igersheimer is without question the greatest authority that ever lived on syphilitic ocular changes. His book on "Syphilis and the Eye" is a masterpiece in its detailed and extensive review of all knowledge on the subject.

John Green⁸ found among 100 congenital

syphilitic children, between 1 month and 14 years of age, 8 patients with optic neuritis, 6 with bilateral optic atrophy and 2 with unilateral optic atrophy; all the optic atrophy changes were secondary.

Igersheimer⁶ thinks it probable that some of those blind from congenital syphilis lose their antibodies in the blood in the course of years and so react negatively to the Wassermann test. He thinks that syphilis plays an important role in blindness from optic atrophy among blind pupils in German institutions for the blind. Many cases reacting negatively to the Wassermann test are probably due to congenital syphilis. The beginning of the process occurs usually in the third or fourth year but not rarely first at puberty and the blindness can occur gradually or very suddenly.

There can be little doubt that practically all if not all the 44 cases of uncertain origin were due to congenital syphilis.

The prevention of juvenile optic atrophy is therefore mainly a matter of intensive antisiphilitic treatment to the parents, principally to the mother.

Metropolitan Building.

BIBLIOGRAPHY

1. Harman, N. Bishop: The Causes of Blindness in Eleven Hundred Children. *Brit. M. J.* 2:390, 1914.
2. Frese, H.: The Causes of Blindness in 849 Blind Youths at the National Blind Institute at Steglitz-Berlin. *Klin. Wchnschr.* 32:2380, 1924.
3. Japha, M. H.: Discussion in Society for Internal Medicine in Berlin, *Deut. Med. Wchnschr.* 31:281, 1905.
4. Heine, Ludwig: Contribution to the Prognosis and Symptomatology of Hereditary Lues in Infants. *Jahrb. f. Kinderh.* 72:328, 1910.
5. Mohr, M., and Beck, S.: Papillitis as an Early Symptom of Congenital Lues. *Klin. Monatsbl. f. Augenh.* 52:276, 1914.
6. Igersheimer, Joseph: Syphilis and the Eye, 1918, Ed. 1, Berlin, Julius Springer.
7. Fehr, Oscar: Demonstration of Three Cases of Neuroretinitis from Congenital Lues. *Centralbl. f. Prakt. Augenh.* 25:211, 1901.
8. Green, John: The Eye in Hereditary Syphilis. *Am. J. Dis. Child.* 20:29, 1920.

RADIUM TREATMENT OF VASCULAR NEVI IN INFANTS*

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One of the greatest problems with which a dermatologist must deal is that of vascular nevus or angioma. It becomes a problem, first, because it is most frequent on the face; second, because the parents are anxious that it be removed at once. They are often possessed with the idea that the sins of their youth have been transmitted to their offspring in the form of this blemish and they would wipe away this external evi-

dence of unbridled concupiscence. The third reason why this is a problem is the fact that a bad scar would be as objectionable as the nevus. There is a fourth possibility and that is the danger to life in the rapidly growing tumors.

Vascular nevi are congenital new growths which usually make their appearance shortly after birth. The most rapid growth occurs in the first few weeks and continues, unless treated, until the full size is reached. The size varies from that of a pea to lesions which cover large areas of the body surface.

The port wine stain and deep subcutaneous or submucous angiomas tend to persist throughout life. The cavernous angioma may heal by spontaneous involution or ulceration; either of these phenomena is liable to result in unsightly scarring, and it is better not to wait for this to occur.

The reason for treating a nevus or angioma is to remove a disfiguring and often distorting lesion or to prevent the possibility of a serious hemorrhage, which sometimes occurs. The method selected for accomplishing this end will depend upon the type of nevus and the particular problems as presented in each case.

Many methods have been used for the purpose of destroying these lesions or causing them to fade. If it were simply a matter of destruction per se, the problem would be a simple one. We must keep in mind the fact that a disfiguring scar may be a lifelong handicap, and the economic value and happiness of this individual may be entirely destroyed because of what is done at this time. The treatment should be that which will offer the best possible results.

Excision is useful in very small areas, especially on the covered parts. It is dangerous to excise an extensive lesion regardless of the location.

Cautery has been suggested but is impracticable and is almost never used at the present time. The injection of irritating fluids and hot water are mentioned only to be condemned. Electrolysis is useful and practicable in the destruction of spider nevi, and is the method of choice in these cases. Bipolar endothermy may be used in intra-oral and in small surface lesions. Much can be accomplished by the careful use of carbon dioxide snow in selected cases.

Radium fulfills the shortcomings of all the above methods. It is painless; this is a great advantage when treating children. It attacks the blood vessels which are the seat of the trouble. The dangers of post-

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operative infection or hemorrhage are avoided.

In the use of radium it at once becomes necessary to inform the parents that haste



Fig. 1. (Case 1.) Nevus before treatment.

will only make matters worse; even when the best efforts possible are used, some scar may remain. In spite of this the results will probably be better if treated than if not.

The technic of application will depend largely upon the experience of the operator and his preference in the use of various applicators. Equally good results may be obtained by the radium plaque, the salt in silver tubes, or radon. As a general rule large doses for a long period of time, even with sufficient filter to prevent any erythema, are not desired. The vessels which we wish to attack are usually superficial. The logical method of treatment is to employ those rays most of which will be absorbed in the upper layers of the tissue. The beta rays are the most effective for all except the deep lesions.

There are certain problems in connection with the reaction to radiation which present themselves for explanation. We might ask, how does radiation act to destroy these lesions? Also, why does it not attack the normal structures as well, and upon what

assumption do we base our contention that the normal cells are not impaired?

In answer to these questions we must consider what happens where the beam of radium rays passes through the tissue. It is known that the amount of absorption depends upon the density of the substance through which the rays pass. Furthermore, it has been proven that the greater amount of radiation stopped or scattered (absorbed), the more intense is the local ionization.

It is considered that the incident beam has practically no effect and that the results observed depend almost entirely upon the ionization which is set up within the tissues. From this we may conclude that the greatest effect will be produced at that level where the absorption is greatest. It is for this reason that filters are used which permit the passage of beta rays of sufficient length to be absorbed at the point beneath the surface which is our object of attack.

Beta and gamma rays have what has been called a selective action. This depends upon certain biological and histological characteristics of the cells. Withers¹ has divided these into six groups, as follows:

GROUPS OF CELLS

(a). It has been shown that the more embryonal



Fig. 2. (Case 1.) Condition at present time.

or undifferentiated the type of cell, the greater is its radiosusceptibility, and conversely, the more differentiated, highly specialized the cell structure, the greater is its radioresistance. (Law of Bergonié and Tribondeau.)

(b). Mottram has demonstrated that ova of various kinds are from eight to fifteen times more vulnerable to gamma rays while in the process of division than in the resting stage. Regaud has shown that the radiosensitivity of cells is a property of the nucleus, and is inherent in certain states or temporary physiological periods of cell life, the most important and best known of which is the state of reproduction.

(c). Cells having hyperchromatic nuclei are in general much more radiosensitive than similar cells having small amounts of chromatin in the nucleus.

(d). The endothelium of blood and lymph vessels has been proven very radiosensitive and the endarteritis produced within a tumor having an abundance of thin walled, delicate capillaries produces changes in these growths quickly, due to the strangulation of their blood supply.

(e). Tumors having small amounts of intercellular connective tissue react much more quickly and favorably to radiation than growths having an abundant stroma.

(f). In general, it may be said that cells which secrete crystalloid material which forms an electrolyte in solution are more radiosensitive than cells which secrete colloid or protein substance.

The presence of these characteristics, then enables one to predict whether a tumor will or will not respond to radiation and permits a more definite prognosis. The radiosensitivity, then, of these embryonal and anaplastic malignancies does not depend upon the anatomical location, but is determined purely by the histological picture presented.



Fig. 3. (Case 2.) Extensive involvement of face—mixed type.

In the vascular nevus those characters are present which render them susceptible to radiation.

Ewing² believes that a high degree of



Fig. 4. (Case 2.) Six months later. Patient still under treatment.

radiosensitivity characterizes all embryonal tumors, i.e., those which arise from embryonal cells and retain embryonal characteristics. This property is probably responsible for the response of basal cell carcinomas, many common tumors in children, embryonal carcinomas of testis and ovary, and possibly many uterine cervical carcinomas.

The lethal dose of the pathological cell is sufficiently below the normal cell so that a given amount of radiation sufficient to cause tumor death will not affect normal structure. This is true especially in regard to vascular new growths in young children. They may without erythema, be removed so that no evidence remains, and as a further clinical substantiation of this contention, the skin over the nevus, unless damaged by the nevus, will return to normal so that no difference is evident between that and the normal untreated skin.

The one exception to this rule is the port wine nevus which is radioresistant. This resistance is explained by the fact that the nevus is present and fully matured at the time of birth, hence the cells are in stage of differentiation. This same phenomenon is

seen in all nevi; those which are radiosusceptible early in life develop a resistance as they grow older. It is for this reason that the best results are obtained when the treatment is done at an early stage.

Filters of aluminium, lead, or brass are used to absorb the alpha and longer beta rays. The quantity of rays absorbed will vary with the thickness and density of the filter. The dose should be so regulated that it is less than enough to produce an erythema. This may be repeated in four to six weeks. If an error is to be made in regard to the interval between treatments, it is better to err by spacing them too far apart than too close together.

The sequelae of erythema is telangiectasis, and of too much treatment is atrophy, keratosis, and malignancy.

Vascular nevi are grouped into three general classes: (1) The nevus flammeus, or the port wine stain; (2) nevus vasculosus, or strawberry nevus; (3) angioma cavernosum.

NEVUS FLAMMEUS

Port wine stains are dull red to purple in color, flat, and may or may not be blanched on pressure. This condition is resistant to X-ray or radium. The use of either method may be accompanied by the unhappy sequelae of atrophy, keratosis, and epithelioma.

The application of Kromayer light has been used with splendid success by some men. I believe, however, that nothing quite accomplishes the same results as carbon dioxide snow. In using carbon dioxide snow it is important to prevent an over application which will result in a slough and subsequent scar. Some scar will undoubtedly result from the removal of the port wine stains. With care a minimum amount of scar can be produced.

Eller³ has had good results in this condition by using a Lortat-Jacob apparatus for applying the snow. The snow is collected in a copper chamber, and the chamber is applied directly to the skin.

NEVUS VASCULOSUS

Nevus vasculosus or strawberry nevus involves the superficial vessels and is slightly elevated above the skin. It is of soft consistency and of variable size up to six or eight inches. These lesions respond well to beta rays of radium.

To quote MacKee,⁴ "The results of beta ray therapy in nevus vasculosus are so striking, so perfect, that they may be placed among the most notable achievements of

radium therapy in the treatment of cutaneous affections."

ANGIOMA CAVERNOSUM

Angioma cavernosum may vary from a pea size to large areas which cover great portions of the body surface. I have seen a case in a child eight months old which involved the face, neck, and chest. It was elevated two to three inches above the skin level. The mucosa of the mouth and tongue were affected and because of a marked stridor it was supposed that the larynx and trachea were included in this growth. It was impossible to see into the larynx but the rapid disappearance of stridor following radium application led us to believe that our assumption was correct.

These tumors may be elevated above the level of the skin or they may be deep and the overlying skin may be normal.

Good results may be obtained even in the most extensive cases. Slight scarring or wrinkling may remain after obstinate cases. Radium far surpasses any other method of treatment in this type of tumor.

Surface applications are the best adapted in these cases. Either the plaque or tube of the salt, or radon, arranged so as to form a plaque with aluminium or brass filter, depending upon the depth of the lesion. The deep submucous or subcutaneous variety requires a greater amount of penetration than the nevus vasculosus which is superficial. It is, therefore, necessary to use a filter of greater density and to keep it in place for a greater period of time.

Lesions inside the mouth are reached by placing the radium on an applicator and fastening it in place or holding it there for a certain number of minutes at a time.

In all cases better results may be obtained when the treatment is carried out early in life.

A general rule applicable to all vascular nevi or to all vascular nevi of a particular type cannot be laid down. Each case presents a particular problem which must be dealt with separately.

Radium offers a convenient and satisfactory solution to the treatment of vascular nevi.

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REFERENCES

1. Withers, Sanford: The Treatment of Malignancies by Radiation. *Am. J. Roentgenol.* **13**:235-236 (January-June) 1925.
2. Ewing, James: The Treatment of Malignancies by Radiation. *Am. J. Roentgenol.* **13**:236 (January-June) 1925.
3. Eller, J. J.: The Treatment of Birthmarks by Physical Agents. *M. J. & Record* **124**:634-636 (November 17) 1926.
4. MacKee, George M.: X-Rays and Radium in the Treatment of Diseases of the Skin, Philadelphia, Lea & Febiger, 1927.

DISCUSSION

DR. T. W. COTTON, Van Buren: How long will it take to treat the last case until it is cured?

DR. G. V. STRYKER, St. Louis, in closing: It is difficult to make a definite statement in regard to the time. We have that problem constantly when the mothers bring their children in. They want to know how soon it can be done and if it can't be done right away. We try never to answer that definitely because there are so many problems which come up. It is necessary to proceed very cautiously in these cases. We want to get the very best result possible but the after effect of too much radium therapy is something that cannot be overcome. Once it is done it is a permanent mark that can never be undone.

The last patient has been under observation now for about six months and we think probably it will be another year, or possibly a year and a half, before the child is entirely free of any marks.

Some of the smaller lesions respond readily and in these one or two treatments are sufficient.

WORRY: ITS CAUSE AND PREVENTION*

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Whether viewed as a disease or as a symptom, as a trait or a habit, a cause or an effect, worry is the most universal and distressing condition or phenomenon of civilization, since it is not confined alone to the afflicted but extends to the home, often leading to estrangements and divorce, and spreads to the social sphere in which the afflicted moves.

For a proper conception of our study we should recall that the brain is not a homogeneous or conglomerate mass of matter, but is a highly differentiated complex organ composed essentially of highly specialized nerve cells which are storehouses of energy for their own activity as well as for that of the entire body, and which with their hair-like processes compose the neurons (the structural units of the nervous system). These neurons are functionally aggregated and arranged in tiers as a vast hierarchy in which activity occurs through contact of the cell processes (simulating a telephone exchange), the lower tiers of neurons being more or less subservient to those above. The highest plane, which is the seat of the conscious mind, is presumed to govern all others except those which control animal life.

The mind in its broad psychological application, comprising intellect, emotion, and volition, contrary to the popular conception, is not an intangible or a supernatural element apart from matter which dominates the body, but is the result of the action of the brain—just as

digestion is the result of the action of the stomach and liver—which under normal conditions is the regulator but never the motive force of the brain. Activity of the brain results in depleting the stored energy of the brain cells and the formation of waste products which are carried away in the blood stream; but in case activity is carried to the degree of over-fatigue, these waste products accumulate and act as poisons to the brain cells. Since mental activity means brain action, voluntary mental work, though carried to the degree of overwork, is no more a mental or psychic cause of disease than is physical overwork or dissipation. Involuntary or uncontrollable mental action is not the primary cause of disease but is the result of disordered brain action.

Furthermore, we must differentiate sensation, which briefly and roughly is a localized sense perception, from feeling in its proper psychological application, which is a generalized subjective mental state or reaction.

We should, also, make a distinction between emotion and worry. Emotion is a more or less acute and violent mental excitation of a painful or pleasurable nature of objective origin accompanied with physical reactions. Worry, to my conception, is a prolonged anticipatory dread or fear of subjective origin, often manifested by more or less constant expressions or murmurings of discontent or suffering. Worry arises from the subjective feeling of inadequacy, but is usually projected externally and attached to inconsequential conditions of environment.

Worry is classified with the emotions, apparently either because it is accompanied with an exaggerated irritability of the brain cells conducing to emotional outbursts, or because it is mistaken for fear and dread as the result of ideas arising from conditions of environment.

Further, will (reflective volition from choice) is not an independent property of mind; it is the final decision resulting from the association of conflicting ideas and emotions, and is to be distinguished from impulse, which is unrestrained action from emotion without deliberation.

Since mind is the result or product of the action (i. e., a function) of the brain, mental manifestations must necessarily reflect the physical condition of the brain which, as a part of the body, is itself influenced by many bodily ailments, and especially by those which are caused by or accompanied with abnormal blood states. Therefore, with an inherently normal and vigorous brain, in the absence of disease, mental operations will be manifested

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by normal mental reactions, which means that the flow of ideas as well as the reactions to ordinary conditions of environment will be under control and accompanied with a general sense of well-being, or euphoria. In other words, the general functions of a normally vigorous brain, which include sensory, motor, intellectual, emotional, and volitional, are so poised as to constitute a "well balanced mind," but when the higher centers of the brain are debilitated or the lower centers excited, either primarily or secondarily, there is a loss of both automatic and voluntary control, so that mental reactions "run riot." Under normal conditions of health and strength the brain, as well as all voluntary muscles and organs of the body which are under the control of the brain, should remain at rest automatically without voluntary attention or control, just as an automobile stands at rest on a level without the use of a brake.

Since normally sensory stimuli or impressions, whether arising within or without the body, arouse the feeling of pleasantness or unpleasantness, which by repetition may result in the feeling appearing from the thought of the object which originally produced them, there will be an exaggeration of the feeling most often experienced which overshadows the opposite feeling of pleasantness or unpleasantness. As a result, there will be developed as a mental habit an abnormal "feeling-tone," which will constitute the background for all mental impressions, operations, and responses. Although mental depression, or ill-being, is the most frequent form of abnormal "feeling-tone," occasionally there is exaltation, or an exaggerated feeling of well-being, technically, *hyperhedonia*.

The action of an organ results in the expenditure of energy which is manifested by physical evidences, and since the brain cells are the storehouses of energy for the entire body, both mental and physical activity is accompanied with a decrease in the stored energy of these cells and the formation of waste products, which is evidenced by both mental and physical symptoms. Some of the mental evidences of what may be classed as normal tire, or normal fatigue of the brain, are, a diminished sense of well-being, even amounting to "ill-being," weakened voluntary attention, and weakened emotional control. Such a degree of tire conduces to sleep from which if sufficient restoration follows. Should there not be a proper relation of sleep to activity, either of body or mind, over-tire or abnormal fatigue results accompanied with an exaggeration of all the evidences of normal fatigue, together with mental tension, exag-

gerated spontaneous or reflex attention, indecision, and apparent loss of memory. Besides, there is such a depression of feeling-tone, or ill-being, that everything appears "black," which causes the afflicted person to worry about that which he recognizes as inconsequential or even nonexistent. As a result of this depressed feeling-tone and diminished power of voluntary attention, with an exaggeration of spontaneous or reflex attention, the mind (unrestrained and unrestrainable) dwells upon depressing impressions from without or, in the absence of these, upon its own depressed thoughts and feelings, which may be projected outward and attached to inconsequential conditions of environment, to which the worry is attributed. While worry is the direct result of a feeling of inadequacy, usually the afflicted either does not realize it or is unwilling to admit that it is the cause of his abnormal behavior, although occasionally an individual reports that he has "a dread of the future" or "a fear of being unable to meet the requirements of the future," a symptom occasionally present after acute illnesses, notably influenza. Other evidences of abnormal fatigue are, various fears, even the "fear of being afraid," loss of the sense of tire, physical and mental irritability, and restlessness with abnormal sensitiveness, often accompanied with a subjective feeling of apprehension of "something going to happen." The natural outcome of these symptoms is insomnia. Either there is an inability to sleep a sufficient number of hours or the sleep is not sound and is accompanied with unpleasant or frightful dreams from which the afflicted awakens more tired than he was when he went to bed, so-called "morning tire." This is a common symptom of nervous debility. Regular sleep is more important than food, since it is claimed that complete absence of sleep for approximately five days results in death; whereas many persons have fasted thirty to forty days and regained normal health and strength; nevertheless, as a rule, people eat too much and sleep too little.

There is no more pernicious advice given the laity by well-meaning health propagandists than, "Insomnia is not going to kill you; neither will it undermine your health, if so many hours of the night are spent in bed regardless of whether you sleep or not. It's the worry over insomnia that kills. Relax your body; relax your mind." As well advise those so afflicted to control their tremors, their fits or their insane delusions.

The lay press reports that psychologists have proved that "sleep is a wasteful habit handed down to us from our primitive ancestors,"

which will "prove" disastrous to the sufferers of insomnia who "choose" to follow this theory. The proof (?) was obtained by subjecting individuals to sixty hours of continuous wakefulness, from which they felt no ill effect and were mentally alert, some of them not even caring to sleep. This proves nothing beyond what has been well known for years, namely, that insufficient sleep results in an overdraft on the stored energy of the nerve cells, accompanied with irritability of the cells and the accumulation of waste products which act as a stimulant to the debilitated nerve cells, causing insomnia. Thus a vicious circle is induced which continues until prostration results. This stimulation of the overexcitable nerve cells certainly makes a person alert until the nerve cells become so greatly debilitated that they cannot respond to such stimulation. These are the very persons who can and do overwork, and because of their apparent energy they usually delay treatment until they become nervous wrecks. While prolonged worry conduces to insomnia, worry is not the primary element but the result of previous overfatigue. Hence, worry is both an effect and a cause; an effect of overfatigue and a cause of further fatigue. Since, in its earlier stages, nervous debility is recognized as an "irritable weakness" of the nervous system, which acts as a stimulant as does the spur to the jaded horse, the afflicted and friends are often misled into believing the condition is that of increased vigor, especially if it is accompanied with the loss of the sense of over-tire and an exaggerated feeling of well-being; whereas, if mental depression and worry are present, persons other than the afflicted usually ascribe the condition to imagination or bad disposition.

A single young man applied for relief from nervous tension and continuous worry because of the fear that he lose his position, with the voluntary explanation that he had held his position for over five years without even a complaint or criticism; besides, his father was financially able and was perfectly willing to care for him if he should be idle. His worry was not in the least alleviated by the advice of a physician that there was nothing the matter with him, but if he did not quit worrying he would become insane. Medical treatment directed to rebuilding the debilitated and unstable brain cells soon restored his physical and mental equilibrium.

A woman, whom I had treated many years before for profound nervous debility, with morbid fears and worry which were without external cause and who subsequently had consulted me for mild recurrences of worry, reported her observation that when she over-

worked and lost sleep she began "to worry about trifles or even about nothing."

A single woman, aged 44, whose life was devoted entirely to Christian missionary work, visiting hospitals, prisons, etc., and though not a member of any religious sect, believed in the efficiency of prayer to supply every need, depending upon it for her own meager subsistence, consulted me in 1905 for nervousness, insomnia, and the loss of her Christian faith, accompanied with worry without recognized external cause. After a short period of treatment, with rest in bed, though she had not fully recovered physically, she informed me that she needed no further treatment as she had regained her faith. Twice thereafter I treated her for similar conditions with the same history. These recurrences were due to the fact that she did not continue treatment sufficiently long to fully restore the depleted nerve cells, so that she never had a reserve of nervous energy for emergencies.

These cases illustrate the presence of worry without apparent or adequate external cause, and were relieved by treatment for the restoration of the depleted potential energy of the nerve cells.

Since primarily worry is a symptom of debility and consequent irritability and instability of the brain cells, resulting in the loss of both automatic and voluntary mental control, hence of physical origin, its prevention is a medical and not a metaphysical problem.

Most cases of nervous debility and worry are the outgrowth of a nervous heredity accompanied with faulty home environment and rearing, which results in the maladjustment of the individual to reality. The latter often produces a direct, or exciting cause, namely, "friction with reality," which aggravates and perpetuates the condition.

Naturally, ideal results in the prevention of worry necessitate beginning with the grandparents; however, under favorable conditions of environment beneficial results will appear in a first generation of children who will be the grandparents in the future. Unfortunately, the training of the individual child or of scattered children is hampered by the manners and customs of undisciplined and pampered companions and friends.

Time does not permit more than the enumeration of the essentials in the care and training of the child, which should include: diet, hygiene; physical, mental, moral, and social training; the instillation of self-control, self-denial, self-reliance, industry, prudence, perseverance, temperance in all things, pride without vanity, and reasonable ambition—in brief, everything which contributes to poise, to en-

able the individual to subconsciously adjust himself to his environment; and withal, the inculcation of the Christian virtues, faith, hope, and charity, as a settled philosophy of life. This does not connote blind "faith without works," which ignores the warnings of the senses until the individual is struck down by an audible and visible approaching automobile or by an equally evident oncoming disease; but rather, that safe and sane philosophy expressed by the homely maxim, "Put your trust in God; but, mind to keep your powder dry."

426-31 Metropolitan Building.

DISCUSSION

DR. G. WILSE ROBINSON, Kansas City: This is a subject in which we should all be interested because we have to face it all the time. Dr. Booth said that worry is almost universal, and he also made the statement, with which I agree, that worry is founded upon fear. Fear is the most common symptom in medicine and frequently is the hardest symptom to combat; and out of that grows worry. Worry and fear working together are very disabling. They incapacitate the individual for practically any kind of occupation. He cannot sleep, he cannot rest, he cannot concentrate and he loses the power of attentive control. He has to absent himself temporarily from his business. Anything that is disabling is of importance to physicians. Anything that is disabling is of economic importance.

Dr. Booth also stated that fear is founded upon a feeling of inability to meet the problems of life. Inability to meet the problems of life is the chief foundation of our fears and our worries. The most deadly worry and the most deadly fear is worry and fear about one's self. It is much worse than worry about business. It is much worse than worry about domestic affairs. It is much worse than to be worrying about other people. And, very frequently, that fear and worry is the result of consulting a physician who by suggestion stimulates a fear of heart disease, fear of cancer, syphilis, etc.

One of the worst cases of worry and fear that I ever saw, and one of the most prolonged, came from a visit of a woman to a dermatologist. She had some sort of a spot on her face. I don't know whether she had cancer or not. She had radium treatment and a radium burn, with resulting scar. She had worried about this for years.

Another thing, if a patient visits a physician and has a palpitation of the heart, the physician looks grave and shakes his head and talks about heart disease. The patient may go away from the office and worry for a long period of time over heart disease.

I offer this suggestion: Let's be very careful about what we say to our patients. They may be easily excited, start to worry, and may easily develop a vicious circle of fear and worry. Out of worry most of our suicides result, not because the patient has a frank psychosis. I have never known a definitely insane patient to attempt suicide.

Dr. Booth correctly said that worry is founded oftentimes on a physical disability. We are all more or less interested in psychoanalysis, but we should not forget that our patient has a physical body, that he has a heart, a stomach, a pair of lungs, a brain, and that sort of thing. Mental and physical treatment should be combined. I don't know whether any of you believe in reincarnation. Some psychoanalysts

tell the patient he must remember something—some experience he had in previous life here on earth, before he can cure him; that some unhappy experience he had had in his previous life here upon earth, was responsible for his present disability and therefore he must remember it. The patient worries much more because he can't remember these experiences than he did before.

I am reminded of the story told by Dr. Love. The doctor told the patient he mustn't worry, because it made his hair fall out, and he answered, "That is why I worry."

I have been talking considerably in recent years about the worry proposition. Most people are trying to carry the regrets of yesterday and the fears of tomorrow. All fear is based upon tomorrow. If you ask your patient when he comes to you, "What are you afraid of today?" "The sun is shining," he will say, "But I am afraid it is going to be cloudy tomorrow."

Practically all our worries are the fear of tomorrow. I try to tell my patients that if they will live intensively today, do the job well today, they will be better prepared for the work of tomorrow. There is no tomorrow. The Lord only gave us one day at a time to live, and one minute at a time to live. We can't live tomorrow, and if we can instill into our patients that sort of philosophy of life, to concentrate on today's work and forget what may happen tomorrow, they will stop worrying. Tomorrow is today, and now is the time for us to concentrate and not spend our time worrying about tomorrow.

Another thing I find in the treatment of these worry cases is to concentrate on something physical. Most of them have disorders of digestion. Most of them, and very frequently, have low blood pressure. Concentrate on that. Concentrate on the physical exhaustion, on brain exhaustion; tell them that they are using more of their reserve energy, using more nervous energy than they are building up. Concentrate on that and get the patient to concentrate on the physical disability and try to impress on him that it is out of the physical disability that worry grows; that their mental disorder is the result of their physical disability. Correct the physical disability and the mental disorder will disappear of itself. If you can get the patient to think along those lines it is very helpful.

Dr. Booth spoke of prevention. Children should be taught not to fear. Don't frighten them. Don't get them afraid of the dark, of this, that and the other thing. Teach them that there is nothing of which they need be afraid. Fear is usually the result of our childhood experiences and childhood teachings on the part of parents and teachers. That, in my opinion, is the best way to prevent worry and prevent fear. Try to teach them that the door is closed on yesterday and closed on tomorrow; that they are living in one room at a time and are working in one room at a time. That is the kind of life we should live. Concentrate intensively on today and the work that is at hand and let tomorrow take care of itself because tomorrow may be a more beautiful day than today.

DR. HERMON S. MAJOR, Kansas City: I think it has been said that two of the end results of worry are fear and insomnia. In these cases it is of prime importance to enable the patient to get sleep by the use of whatever hypnotics are best. But it is very important that we steer clear of any narcotics because this type of patient will very easily become addicted to the use of drugs. We all know that each of us has so much placed to our credit in the bank

of nature and these people, for the time being at least, have overdrawn their account.

We must not lose sight of the fact that we have to deal with the thing that we call resistance. Some people have a great deal more resistance than others. Some people have the resistance that enables them to work five or six hours a day while some other individual has a resistance that will permit him to work eight, ten, twelve, fifteen or sixteen hours a day. I have a physician in mind who is a regular human dynamo. It seems as though he never tires. He is a physician in a town of about 1500, and he is on the go both day and night. He has a wonderful amount of resistance. I will frankly admit that I couldn't possibly stand the punishment that man has stood and still does stand. That is a matter of resistance.

As has been said about these patients who worry, what the physicians say to them is very, very important. I have a patient in mind who went to a physician and he very innocently made a remark that took her about a year to get over. She had a severe neuralgia which would radiate up and down the base of the brain and she asked him, "Doctor, do you suppose I have a tumor of the brain?" He said, "Well, I don't know. That is possible." That seemed to be what she was looking for and she grabbed right on to that. It took a lot of talking and persuading and psychotherapy to get her to let loose of that idea.

All these patients become introspective and self-centered and as a result become selfish and think about themselves as though a flood light were turned on them. They can't think about anything else. I don't believe these patients should be loaded with medicine. I believe helping them to help themselves is the best remedy. We men who do nervous work and use big long terms call it psychotherapy, but it doesn't mean a thing in the world but mental suggestion.

We must bear in mind, too, that these conditions are not *prima facie* nervous diseases but a disorder, a maladjustment that can be corrected and oftentimes, as Dr. Booth and Dr. Robinson have both stated, there is some physical basis that can be corrected.

In a great many of the larger cities now we have what is called the child guidance work that tends to correct conditions about which Dr. Robinson spoke, the fear in children. We can all recall, and we may have been subjected to this treatment ourselves when we were youngsters, that parents would punish a child by locking him in a dark closet. The child would scream and become terribly frightened. This is a condition that should never be permitted.

DR. HUDSON TALBOTT, St. Louis: I think we are extremely fortunate in having heard an analytical paper about worry. I appreciate very much that Dr. Booth and the other speakers have mentioned the physical. I have not studied along that line especially, yet I am persuaded that there is a causative factor in all such conditions. Much work has been done in solving the etiologic factor in many human ills. I have an idea that perhaps less has been done by the neurologists than by others. There must be a causative factor.

You speak of worry and you say perhaps there is a physical condition back of it. You speak of fear, but you are not telling why he fears.

That leads me along this train of thought: Isn't it a perfect wonder that as many folks are created as nearly along a normal line as they are? Draw a line and call that normal, and you will find there is

only a little variation above and below when compared with the acts of the average individual.

Dr. Major spoke of resistance and mentioned the doctor who can work day and night and has a great amount of resistance. I believe that is probably because he has a fairly balanced organism that makes repair as rapidly as he makes waste. I think of repair as something like this: Here is a man erecting a building and if the proper material is sent from the mortar box and the brick pile, and so forth, he can construct a perfect building; but if he is given imperfect material he will probably have an imperfect building when it is completed. If you have a vessel with a partition separating two fluids, one that is permeable and one that is pollute, sooner or later both fluids will be polluted. So it is with our blood stream. If your sugar tolerance, for instance, is on the border line and you take on more than that organism can appropriate you pollute your blood stream and you are sending up to your builders imperfect material. If imperfect material is carried to the blood cells of your body into your muscle, brain, or other tissues, the probabilities are that the feeding of those tissues is going to be imperfect. If you have a focal infection you are getting some pollution of the blood; the brain cells are being imperfectly nourished. Because of having imperfect building material those cells are not functioning properly and you get your fear or your worry.

I simply stress the idea of looking particularly into the physical condition. Try to see that your patients are not only rested enough but that they are feeding enough and feeding properly, and that there are no foci of infection; that the tolerance of sugar and other things is right. If you are supplying the proper building material you will probably have a more nearly perfect structure as the end result.

DR. JOS. W. LOVE, Springfield: Something was said in the paper and also in the discussion about fear as the cause of worry. There is no need for fear, neither of God, man nor the devil. We should love God, respect man and hate the devil. I am one of those who believe that man is incurably religious. I believe, therefore, in prayer as a wholesome, spiritual exercise, but instead of living in day-tight compartments, as some psychiatrists advise, I try to live in idea-tight compartments. That is to say, when I enter my laboratory I close the door of my oratory, and contrariwise, when I enter my oratory I close the door of my laboratory. Furthermore, I never try to pour the results of human experience into the molds of logic. I never knew of but one philosopher who was thoroughly consistent, and he was a blockhead.

Something was said about relaxation as a cure for worry, then it was advised to concentrate. I don't see how one could both relax and concentrate at the same time. That, however, is an instance perhaps of trying to pass life's experience through the molds of logic.

Anyway, if you want to relax, that is, if you desire complete mental relaxation, instead of going to church come to the State medical meeting and get somebody to speak on medical economics.

Reference was made to a woman who had lost her religion. That perhaps was a just provocation for worry since a woman in such a state is as badly off as a cow that has lost her cud.

Dr. Wilse Robinson played a clever trick by using part of my thunder in his discussion. I took break-

fast with Dr. Robinson this morning and, noticing that of late his hair had begun to thin out a little on the top, I cautioned him against worry, remarking that worry often causes the hair to fall prematurely. "I know it," said he, "that's what worries me."

While as I said, I believe in prayer, the reason for my rare attendance at church is because I have more confidence in what God tells me, than I have in what other men tell me that God tells them.

Dr. D. S. BOOTH, St. Louis, in closing: There are many things that could be said further, but the speakers have elaborated on some of the things I could only mention in my address, in the preparation of which, my only worry (?) was to keep within the time limit.

The last speaker discussed the inconsistencies of concentration and relaxation of the brain. He doesn't seem to think that practical. The contraction of muscles is followed by relaxation. The same law governs all organs.

The gentleman who asserted he "fears nobody," etc., probably has pretty well filled nerve cells. He seems to have considerable stored energy. Such people are said to recover from illnesses "because of their will power." Why do they have will power? Because of the stored energy in their nerve cells. Many of us live "from hand to mouth" with our nerve force. We have no reserve.

Referring to hypnotics, which many physicians fear to use, certainly no modern practitioner uses opiates to induce sleep. For years I have used a placebo preparation which in physical properties resembles a liquid hypnotic solution and is used to dilute the hypnotic so that if the dose of the drug is judiciously reduced it may finally be discontinued.

I tried to make a distinction between fear and worry. Fear is objective,—from environment or conditions. We fear certain things we believe are going to happen. The distress of illness is referred to as worry, but it is fear of an unfavorable termination. I classify that as fear.

Worry is subjective, as are delusions or hallucinations; at any rate, worry arises spontaneously as the result of debility and consequent irritability and instability of the cerebral neurons.

One speaker suggested that fear is a good thing in certain ways. For instance, it has caused the doctor to save money for the future. That should not be fear, but prudence. In the training of the child, I enumerated requisites to provide for the future, among which is prudence. It is prudence which causes us to "save for a rainy day."

In the training of children I do not believe corporal punishment desirable and not as effective as persuasion, deprivation of pleasures, etc.

MULTIPLE PRIMARY MALIGNANCY

HARRY WILKINS, M.D.

ST. LOUIS

AND

THOMAS H. SMITH, M.D.

OSBORNE, KAN.

Multiple primary malignancy is not very common as shown by the fact that in 3,410 cases dying of cancer only 37 showed a multiplicity of a primary lesion. (Table 1.)

TABLE 1. Number of Cases of Multiple Malignancy in Cancer Necropsies

Author	Cancer Necropsies	Cases of Multiple Malignancy
Von Hanseemann	1000	5
Redlich	507	2
Feilchenfeld	507	10
Riechelmann	711	2
Nichols	685	18
Totals	3410	37

Multiple primary malignancy of one organ is more common than when found in different organs. There may be a tendency to occur in a system of organs, as the uterus, ovary, and breast, but even less so than in a number of unrelated organs. You may then have multiple primary malignancy of the same or different histopathology occurring in the same organ, system of organs or various organs.



Fig. 1. Gross section adenocarcinoma of transverse colon.

The most common combination of malignancies is carcinoma and sarcoma. Virchow describes a tumor with both present. Goetting reports a case with a squamous cell carcinoma of the larynx, and adenocarcinoma of the rectum and a medullary carcinoma of the stomach. Lewis reports a case with nine and Sliwinsky one with seven different tumors in the same patient.

Billroth suggests three criteria for the diagnosis of multiple carcinomata in the same individual: (1) different histopathology; (2) different locations or points of origin; (3) the

production of metastasis from each primary growth.

The modes of origin and onset of multiple malignancy involve a discussion of our present theoretical knowledge of cancer. Ewing says the occurrence of two or more tumors in the same or different organs suggests nothing more than the accidental coincidence of the general biological factors involved in the genesis of tumors.

colon and a squamous cell carcinoma of the cervix.

She gives a history of chronic intestinal obstruction, complaining of constipation, pain in the abdomen, tympanites, nausea and vomiting, all of which were temporarily relieved by large doses of castor oil or salts.

An unusual point in her history is the fact that the menopause occurred at forty-two years of age,—twenty years ago and there is no history of any subsequent bleeding.

A general physical examination showed a woman who looked tired, somewhat anemic and dehydrated,

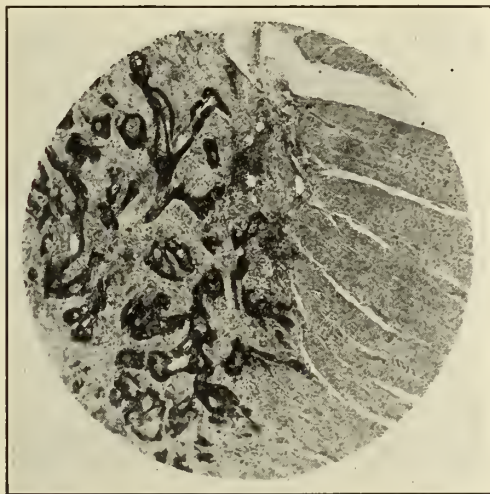


Fig. 2. Carcinoma invading intestine.

REPORT OF CASE

✓ Mrs. T. N., age 62 years, white, was admitted to the Kansas City General Hospital, April 22, 1928,



Fig. 3. Barium enema showing filling defect in transverse colon.

on the service of Dr. James G. Montgomery, and found to have an adenocarcinoma of the transverse



Fig. 4. Carcinoma of cervix.

having just recovered from an attack of incomplete ileus. The abdomen was somewhat distended, tympanitic, and had an area of tenderness and the suggestion of a mass in the left upper quadrant. Vaginal examination showed the cervix to be nodular, irregular and bled on manipulation. There was no fixation and not the usual cauliflower appearance of the growth.

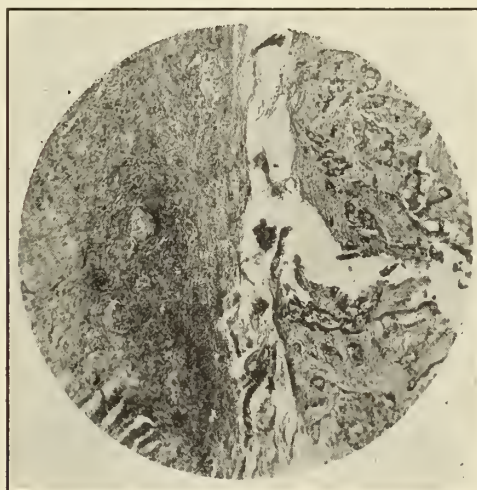


Fig. 5. Metastatic adenocarcinoma involving the ovary.

A barium enema showed a filling defect in the midtransverse colon that confirmed the impression of a tumor.

Biopsy proved the growth of the cervix to be a squamous cell carcinoma.

Patient was operated upon April 27, 1928, five days after her admission. The cervix was amputated with the electrocautery and two-thirds of the transverse colon including tumor mass resected, making a lateral anastomosis between the hepatic and splenic flexures. There was no gross evidence of metastasis.

The patient died May 4, 1928, eight days after the operation. The postmortem showed the cause of death to be a bilateral lobar pneumonia.

There was no evidence of metastasis of the carcinoma of the cervix but there was a metastatic adenocarcinoma of intestinal origin in the right ovary.

Barnes Hospital.

THE HOSPITAL AND THE COMMUNITY*

MORRIS FISHBEIN, M.D.

Editor, Journal of the American Medical Association

CHICAGO

The hospital of today is an entirely different institution from what it was fifty years ago. Then it was frequently necessary to take the average citizen and beat him into unconsciousness before he could be gotten into a hospital. In fact, it was necessary to send a patrol wagon full of policemen into the slums when patients required removal to city institutions. Traditions were associated with hospitals which linger even today in the minds of the ignorant. Murmurs of the "black bottle" are still heard in Chicago. The hospital has changed much since that time, because of the change that has taken place in scientific medicine. Early hospitals existed as places for the surgeon to do his work because it was learned that proper surgery could be performed only under hospital conditions. The patient had to be given an anesthetic, and the great fundamental discovery of Lister relative to surgical cleanliness made it necessary to build these great institutions primarily for those who were undergoing surgical attention. It is not so long since it was practically unheard-of for patients with medical diseases to go to hospitals. Today many hospitals exist primarily for medical cases.

It will be necessary to make reference to figures and statistics occasionally in this address. Nothing bores an audience so much as the mouthings of statistical or end to end fanatics, but it is necessary to mention a few figures in order to bring out the points I wish to emphasize.

Two per cent. of our people are sick all the time. From eighty to ninety per cent. are sick with conditions that a general practitioner can handle without much trouble outside a hospital. That leaves twenty per cent. as possible candidates for hospital beds. Few people realize the scope of medicine as an industry, a field employing 150,000 physicians, 50,000 dentists, about 150,000 registered and trained nurses, 100,000 orderlies and associated attendants, and a great many cooks, caretakers, elevator men, janitors and other workers. In all, about two million people take care of those who are sick. One might imagine that, since there are just about two million sick, someone is always taking care of everybody who is sick, but it does not work out quite that way. The bill for all of these cases is two billion dollars a year, not so much as our people spend in movie shows, but a little more than women spend on cosmetics.

The care of the sick in the hospital has come to include not only operations on those who require surgical attention, but also the care of those who require simply a diagnosis of the condition from which they suffer. That practice has brought in patients who are not very sick. They are brought in because the hospital is the most convenient place to give them the consideration that modern scientific medicine demands. Fifty years ago the chief things the doctor did was to feel the pulse and examine the tongue. Perhaps also he listened to the chest without a certain idea as to what he was going to hear. He based most of his diagnosis and treatment on the ordinary tendency of disease. With modern, scientific medicine the physician probes into every part of the human body. He has a complete electric lighting system with which he may illuminate practically all the cavities the human body possesses. He has methods of making every organ visible by the use of the X-ray when the organ cannot otherwise be illuminated. He examines the blood, the urine, and the sputum. Everything excreted and secreted becomes for him a source of study. After his investigation is completed he is able to make a scientific diagnosis, if he is a scientific physician. I admit that he does many things or has them done of which he himself is not quite certain, but they give him valuable information.

Scientific treatment today is also a great deal different from that given fifty years ago. Then the patient was put to bed and invariably given a concoction of drugs, most of which were chosen for their taste and odor. The stronger the drugs, the more certain the patient that he had a good physician. In our modern system the patient is frequently told that all he needs

*Address at the Graduating Exercises of the Jewish Hospital School of Nursing, Temple Israel, St. Louis, May 31, 1928.

to do is to lie down in bed and eat like a human being.

The diagnosis has become the most important task and it is a task of such magnitude that the chief duty of a hospital today is to provide those unusual means for diagnosis that are not easily accessible to the ordinary physician. With the 7,500 hospitals existing in the United States today, some 80,000 physicians are constantly associated. Eighty thousand have an opportunity today to avail themselves of modern facilities, and that means practically all the good doctors there are—in fact, some who are not so good.

When people were sick in the past they usually preferred to be sick in their homes. Probably they still do in rural communities. In cities they have to go to hospitals whether they want to go or not. It has been said that we have three classes of people: the rich, the poor, and those who still have tonsils. That is one classification. The usual division is into upper, lower and middle classes. Sociologists and economists constantly reiterate that the rich and the poor get the best medical care, and that the middle class group does not receive it. The rich get the best of everything as long as they are able and willing to pay for it. The poor get good medical attention in this country today because schools and hospitals require patients to fulfil their function of teaching nurses, physicians and people generally. For this purpose the sick poor permit themselves to be used as subjects for demonstration. The poor do get excellent scientific diagnosis. I would like to point out, however, that they do not get the type of attention given to a John D. Rockefeller. One of the requisites of the best medical service is good nursing care; it represents perhaps the largest expense of what the hospital gives the sick. Nursing care given to one patient by three nurses working in eight hour shifts is far different from the care given by two nurses in twenty-four hours to a ward full of patients. Physicians who take care of patients with pneumonia know that the nursing care may constitute all the difference between life and death. Indeed, such care may be more important than anything the physician may do for the patient. One may recall Mr. Dooley's conception of the difference between a Christian scientist and a physician. "The physician would be all right," said Mr. Dooley, "if he had a little more Christianity; and the Christian scientist would work if he had a little more science; and the patient would probably get along just as well with either if he only had a good nurse."

The middle class man always is the victim of his circumstances. In the city he lives in a one-room kitchenette apartment because that

is the most endurable type of dwelling he can afford. It is possible to get along fairly well with a bad cold in a kitchenette but if one gets inflammatory rheumatism or ozena the rest of the family think he ought to be in a hospital. It is practically impossible to be seriously sick in a one-room kitchenette. Changes in methods of living and modern conditions have made the great change in the care of people when they are sick. Today about 850,000 beds are available for the sick in hospitals. These include provision for those who are chronically sick with tuberculosis, for mental conditions, as well as for those who are sick with acute illnesses. In 1880 some 300 nurses graduated; in 1925, 18,000 were graduated from the hospital training schools in the United States. In 1880 there were about ten nurses' training schools, and last year there were 2,150. Apparently people are turning more and more to the hospital for all types of illness. This development, this application of scientific methods of diagnosis, this necessity for diagnostic apparatus such as the X-ray, for physical therapy apparatus, and for other tremendously expensive equipment have added to the cost of medical care. It is not possible to be sick so reasonably, although it is probable that one gets well a little quicker and more comfortably. Because of the costs the middle class man is inclined to temporize. He goes to the corner drug store for treatment, accepts any diagnosis, and goes to a hospital only with the greatest of urging. When people are earning five thousand a year and paying most of it for rent, food, clothing, movies, radios and automobiles, they are not able to put anything by. An operation is a serious burden, to be put off as long as possible.

Economically, poor medical care and temporizing with illness are exceedingly costly. It costs about ten thousand dollars to rear a child to an earning age. If he eventually becomes a five-thousand-dollar-a-year man when he gets to be 32, he represents a potential value to the community of \$50,000. That much is tied up in that human being. The value of material goods, real estate and lands in our country is appraised at 321 billions of dollars; but the people of the United States, if estimated at their cash value to the community would be one trillion five hundred billions of dollars. Some of it is tied up in you. I don't know how much of it is here, nor how many of us have our own share. But if that were real property, we would be doing everything possible to protect, maintain and insure it. If it were tied up in automobiles we would run them into the garage to have them looked over to see that they were kept in the best of condition. We would have every little rattle

taken care of. We would not temporize. Yet when a human being becomes sick, he runs on as long as he can because he wants to put off payment as long as possible. That is an uneconomic attitude because it tends to make the final cost greater. One way to save is to get good attention given to a patient as soon as possible and thus prevent more serious illness later. Over all the world, prevention has become the great word in medicine, and secondary to that, the earliest possible attention when a person becomes sick.

The cost of conducting hospitals is far larger than most people realize. At the Jewish Hospital the cost is \$6.85 a day to take care of a patient. The majority of people are not able to pay \$6.85 a day. There are other hospitals in which the cost per diem is \$10.50 for a patient. With such fees the average middle class person would go into bankruptcy if he had to lie in a hospital two weeks. Therefore the average person is not charged what it costs. He is charged what he can apparently afford to pay. In order to take care of the deficit that ensues, hospitals are creating larger and larger endowments. Philanthropists are establishing tremendous funds to ensure good medical care for every one. The philanthropist is being asked to carry more and more of the poor and the middle class when they become sick. That is not entirely an equitable procedure. It tends to pauperize many people. It is always pauperizing to give a man something for less than it costs. Sooner or later he feels that it is his right to get things for less than they actually cost simply because he cannot pay.

The only alternative is to attempt to provide the man with medical care that he can afford and to make him satisfied with that type of care. That brings up a point of psychologic interest. Hospitals have been planned largely on plans used by hotels. Primarily they have been places for people who wanted the best of everything. Hospital construction has grown up with that point of view because the middle class has always wanted the best of everything when it became sick. The average person today expects to have a private room, a day nurse and a night nurse. He expects to be visited by all his relatives and friends. He expects to be given a small gift of some kind or other just as soon as he gets in the room. He expects the nurse to take care of the flowers and gifts and dispose of them in the most beautiful manner. I venture to say the florist bills of this country would serve to build many hospitals every year. Hospitals are built today with special refrigerating cabinets to take care of flowers. Nurses spend hours and hours on the care of these decorations. Perhaps here sentiment

outruns sense. Of course we want to do everything possible to get the patient well quickly and get him back to an earning capacity. Psychologically we make it pleasant for him to be sick. The patient gets comfortably located and decides: "This is the life; better make it last as long as possible."

We must realize that when the average human being becomes sick he does not thereby change his social status. Being average and being sick, he should be given attention such as he might receive at home, except that scientific medical study and nursing care are added. The deficiency of expensive sentiment may be equalized by the application of personal human courtesy and kindness. When a person enters a hospital he should not be met by a barred desk and have to speak to clerks through window glass. He should be met by someone who realizes that the hospital is there primarily to take care of patients. When he is examined by an intern, when specimens are taken from him, he is not to be treated as a laboratory animal. He should be told why it is necessary to perform these different manipulations so that he will cooperate. Nurses should give the patients the same type of attention they would give to members of their own family.

This personal, individual attention used to be the thing that distinguished the old-time family physician. With such attention it will be unnecessary to create an artificial atmosphere of luxury and solicitude through flowers, draperies and paintings; it will be possible for the patient to take a rational attitude toward his illness. The scientific atmosphere is not necessarily inhuman. The real scientific atmosphere is human because physicians know that it is necessary to know the patient's mind as well as his body. No matter how scientific we become, the kindly relationship of doctor and nurse and orderly to patients as human beings is the one thing which must be maintained, the only thing that will make it possible to dispense with some of the more costly things now supplied in the hospital.

When this view prevails increased funds for hospitals will come from those who have always given munificently to take care of the sick. Many authorities urge that it is no longer possible to run a hospital for profit, that it is not possible to conduct a scientific modern institution with what people can afford to pay. The paying therefore is done by all the people of the community. When the funds are sought, let us hope the seekers will not meet the reception given by an old banker who was solicited for funds for a hospital. He was tight, and he had a glass eye. He resisted as long as possible. Finally he said, "If you can look at me and tell me which one of my eyes is

glass, I will give you fifty thousand dollars." The solicitor looked at him a little while and said:

"That is the glass eye."

"You are right, and I will give you the money. But you are the first one who was able to point it out. Will you tell me how you knew?"

"I looked over them both," said the solicitor, "until I saw that one had more human expression than the other. I decided that was the glass eye."

That expression of humanity—that appearance which reveals human sympathy as an attribute of its possessor's soul—will always indicate the true worker in the fields of medicine, where all those toil who devote their lives to the alleviation of human ills.

535 North Dearborn St.

TULAREMIA

REPORT OF CASE

J. S. MONTGOMERY, M.D.

MILAN, MO.

A case of tularemia has just been discovered in Sullivan County. The patient, a farmer's wife, 38 years old, was first seen in my office June 23, 1928, with a sore of twelve days duration on back of index finger. There was a chill at onset, slight continuous fever, but no abdominal symptoms. About three weeks after onset an enlarged gland the size of a marble appeared in the epitrochlear region and a week later another in axilla. These did not suppurate but began to subside in another ten days. The sore was very sluggish but was about well at the end of a month.

There is no rabbit or squirrel history in this case although patient recalls removing a wood tick from one of her children along about the time of onset. As rabbits are known to transmit the disease to each other by means of ticks and lice she may have contracted it in some such way.

Diagnosis was confirmed by a blood test at the Hygienic Laboratory, U. S. Public Health Service, Washington, D. C.

ENDEMIC MENINGOCOCCUS MENINGITIS

The quantitative sugar and chloride content of the cerebrospinal fluid during specific serum therapy was studied by John P. Caffey, Stafford McLean and Ruth C. Sullivan, New York (*Journal A. M. A.*, June 11, 1927), in thirty-three bacteriologically proved cases of meningococcus meningitis in infants and children from 4 weeks to 7 years of age. All these patients received serum therapy with the exception of two fulminating cases in which death occurred before there was opportunity for serum injection. Approximately 50 per cent. of these observations are in infants of not more than 12 months of age. There were twenty-five recoveries and eight deaths, or a mortality of 24 per cent., including the

two untreated cases. In acute purulent meningococcus meningitis before treatment, the sugar concentration of the cerebrospinal fluid was markedly decreased in 90 per cent. of the cases. A small number of cases showed a normal sugar concentration. The administration of specific serum in children older than 6 months who recovered caused an increase in the cerebrospinal fluid sugar to normal within from seventy-two to ninety-six hours. The administration of specific serum in patients younger than 6 months who recovered caused a slower increase in cerebrospinal fluid sugar. Normal values were not reached during two weeks after the beginning of treatment. The administration of specific serum in uncomplicated fatal cases did not cause a material increase in cerebrospinal fluid sugar. The cerebrospinal fluid chloride content was reduced in 60 per cent. of the cases before treatment. In cases in which the chlorides were decreased, the administration of serum caused an increase to normal in cases in which there was recovery. The authors conclude that increase in cerebrospinal fluid sugar during specific serum therapy is a favorable prognostic sign. Failure of cerebrospinal fluid sugar to increase during serum therapy in patients older than 6 months in an unfavorable prognostic sign. Failure of cerebrospinal fluid sugar to increase during serum therapy in patients younger than 6 months is not necessarily an unfavorable prognostic sign. Quantitative determinations of cerebrospinal fluid chlorides do not give valuable diagnostic or prognostic information.

LACTOSURIA IN NURSING WOMEN

Aldo Castellani, New Orleans (*Journal A. M. A.*, June 2, 1928), studied twelve nursing women whose urine reduced Fehling's solution. In most cases the reaction was slight and disappeared after a few days. The bacterial method showed that in every case the Fehling reducing substance was lactose; no dextrose or any other sugar apart from lactose was present. The simplified bacterial method for the detection of lactosuria is quite easy and may be satisfactorily carried out in any ordinary bacteriologic laboratory. The urine is collected in a clean bottle or other clean vessel, if possible sterile, although this is not essential; if it cannot be examined at once, it can be kept for some hours or even a day or two in the icebox. A portion of the urine is boiled for two minutes; it is then distributed into two fermentation tubes, labeled 1 and 2. As soon as the urine has cooled down, tube 1 is inoculated with two or three large loopfuls of *B. coli* from an agar culture; tube 2 is inoculated with *B. paratyphosus* B in the same way. The two tubes are placed in the incubator at 35 to 37 C. for from twelve to twenty-four hours. The results are then read. If tube 1 (*B. coli*), shows the presence of gas and tube 2 (*B. paratyphosus* B) does not show the presence of gas the inference is that the urine contained lactose. The explanation is as follows: With regard to Fehling reducing sugars which may be found in the urine—viz., dextrose, levulose, maltose, galactose and pentose—*B. coli* and *B. paratyphosus* B ferment the same sugars except one, lactose, which is fermented by *B. coli* and not by *B. paratyphosus* B. If a Fehling reducing sugar therefore is fermented by *B. coli* and not by *B. paratyphosus* B, the inference is that it is lactose. Strains of *B. coli* and *B. paratyphosus* B should be used that have approximately the same degree of fermentative power on the sugars they ferment. The test may be employed also as a roughly quantitative test, graduated fermentation tubes being used.

THE JOURNAL

OF THE

Missouri State Medical Association

SEPTEMBER, 1928

EDITORIALS

FROM THE BENCH

An interesting statement was made by District Judge Symes, of Denver, in an opinion for the United States Circuit Court of Appeals, in affirming, on July 7 last, the two year sentence and \$1,000 fine given Harold M. Stunz, of Kansas City, on a charge of mail fraud in advertising a "gland rejuvenator" as a "fountain of youth" which would "restore lost vigor in 24 to 36 hours." Physicians testified for the Government that the preparation was of doubtful therapeutic value, while defense experts testified that distinct benefit would result from regular use. Commenting on this difference, Judge Symes wrote:

"A respectable amount of authority can be cited to dispute the value of any well-recognized method of treating disease. The decision as to the efficacy of any particular remedy or drug ought not in a criminal case be left to a layman, nor can the liberty of an accused be allowed to depend upon the choice that a jury might make between the conflicting opinions of medical experts.

"The so-called quack remedy of today may be hailed tomorrow as an absolute cure and vice versa. Vaccination, for instance, is believed by a large majority of the medical profession and the public to prevent smallpox. Others, with equal sincerity, openly advocate the contrary view.

"When the white man and the Indian hunted deer together and the meat was divided, the liver, discarded by the white man, was prized by the Indian for its medical properties. Today, it is prescribed by the medical profession as a certain cure for pernicious anemia.

"Not many years ago the so-called Chinese herb doctors were prosecuted under this identical statute (mail fraud) for representing that portions of dried fish, especially the head, were a cure for heart trouble. It is now established that adrenalin, which can be obtained from certain kinds of fish, is a powerful heart stimulant."

It is scarcely necessary to point out the fallacy of inferring that only "a large majority" of the medical profession believe vaccination will prevent smallpox, or that deer liver has any relation to the Minot and Murphy diet for pernicious anemia, or that adrenalin comes from the heads of dried fish. What the Court was driving at, apparently, was that conclusions of expert witnesses, like the conclusions of any other

witness, were not admissible as evidence. It seems he was adding his voice to the medley on the muddle that inevitably follows a mixture of medicine and the law, and his contribution, on the medical side at least, was an excellent illustration.

CONTROLLING LONGEVITY

Raymond Pearl, of Johns Hopkins, after crossing and recrossing it in his varied researches for many years, has set his foot on a path of utmost interest to every one of us. The task he has set himself is an analysis of the histories, personal and family, of nearly a thousand persons over 95 years old, with the aim of learning something definite about longevity. It is not necessary to explain that most of our present data on the subject consist of sawdust—voluminous and meaningless statistics; and cologne—a body of theories of equal substance with old wives' predictions from dropping a fork or meeting a cross-eyed man in the dark of the moon. Moreover, this also applies to the rambling tales of the old folks themselves. We all have smiled at the disagreement between Uncle John, who drank white likker out of a gourd at 9 and swallowed his eatin' tobacco juice for 80 years, and Uncle Joshua, who never even said "darn" except when milking a restless and long tailed cow in the height of the horsefly season. Beyond this modest contribution to the gaiety of nations, there is a great deal of hollowness about the most solemn and sonorous theories on the subject. Few of them have a tangible grounding in concrete data. Most of them, however scientific in sound, are as fanciful in fact as any romance of Rider Haggard.

Pearl is not ill equipped for the job. In earlier work he has studied the effects of certain supposed influences on longevity, and he has a habit of drawing his conclusions from the data and not getting the cart before the horse, as has been known to happen in some well regulated laboratories. In fact, the best instance we know of correcting a little accident like that occurs in one of Pearl's papers on the effect of alcohol on the germ plasm. It is reasonable to expect that if he does announce the discovery of some controllable factor in longevity—some way we can all live past 95, barring collision with a new Ford or a flock of virulent "bugs"—we can depend on it. While we may be permitted to indulge our doubt of the likelihood of any

such discovery, we realize that he would be an overbold person who declared the object was unobtainable. We are reminded of the clerk in the patent office at Washington who resigned his position in 1839 because he believed that everything that was patentable had been patented and therefore the patent office would have to close down.

A little work in the direction of Dr. Pearl's has been done by Frank Blair Hanson, of Washington University, who found, in experiments with the germ plasm of *Drosophila* under X-ray, a definite hereditary factor for longevity, so definite in fact that, reduced to terms of human life, the life cycles for various strains could almost be divided systematically into decades. Few of us are anxious to depart from this green earth until the Fates decree that we have run our span, but we await Pearl's report with an interest that, although absorbing, is almost wholly academic.

GOLD MEDAL TO DOCTOR FRANCIS

A gold medal for the most important and original medical work of the year was presented by the American Medical Association at its Minneapolis meeting to Dr. Edward Francis, of the United States Public Health Service, for his research on tularemia. The disease was first discovered in a ground squirrel in Tulare County, California, in 1910 by Dr. G. W. McCoy, of the Public Health Service.

Since then it has been recognized in 42 states, the District of Columbia and Japan, but in no other country. Of 614 reported cases, 23 have ended in death. Dr. Francis himself became a victim of the disease when studying his first case of it in Utah. He has become the nation's outstanding authority on tularemia, which has perplexed science since its discovery in 1910.

It is primarily an epizootic of wild rabbits. It has been traced to *Bacterium tularensis*, which produces decay of tissue cells in the liver and spleen. The organs become covered by white spots from the size of a pin point to that of a pin head. Dr. Francis examined the livers of 1,000 rabbits offered for sale in Washington, D. C. and found 10, or 1 per cent., to be infected with the bacteria in a virulent form. The inoculation easily passes to man in the process of dressing rabbits. The infection from the rabbit's liver will enter a wound in the hand and cause an ulcer, enlarged glands at the elbow or axilla, fever and confinement to bed.

The disease in man is most prevalent in November, December and January when cottontails are most generally hunted. Cooks, hunters, housewives, market men and persons who prepare jack rabbits for fish or coyote bait, fox, chicken, hog or dog food often become infected. After it was discovered in the ground squirrel by Dr. McCoy, tularemia passed to the jack rabbits of the west and advanced steadily across the continent until now there remains only one block of six uninvaded states in New England.

The Public Health Service urges for prevention that bare hands be kept out of wild rabbits. The meat is harmless when thoroughly cooked since a temperature of 133° F. kills the bacteria. Rubber gloves give complete protection when dressing wild rabbits. A rabbit which a dog has caught or which a boy has killed with a club is likely to be sick. So is the cottontail usually brought in by the tenderfoot—the one which sits still at the point of his gun and is about the only one he can shoot. It is a good rule of health as well as sportsmanship to take rabbits on the run at 25 feet.

In the history of medicine there is only one instance where American investigators alone have discovered a disease of man, isolated its cause, determined its source of infection and the modes of transmission to man, described its symptomatology and pathology and elucidated the other essentials making up the complete knowledge of the disease. That instance is the story of tularemia.

"FLOPPERS"

"Floppers" have come under investigation in New York. We have not yet reached the point of investigating them as a class, but we have them here. Not flappers—floppers: people who "flop"—trip and fall—and then present a personal injury claim. One of the most expert of the craft testified in New York that he had flopped 75 times for one lawyer with the most gratifying financial results. And somewhere in the flopping organization there must be a doctor, a professional damage suit witness. One of that peculiar species was discovered in St. Louis a year or so ago, and perhaps others are lurking in the brush. It might be well to smoke them out before they become numerous enough to provoke an organized—and very public—investigation.

NEWS NOTES

Dr. Ernest W. Cavaness, Kansas City, Director of Health, attended the annual meeting of the American Hospital Association, August 6 to 10 in San Francisco, and spent three weeks visiting health departments and hospitals in the west. He was accompanied by Mrs. Cavaness.

Drs. W. H. Luedde and H. D. Lamb, St. Louis, respectively director and associate director of prevention of blindness for the Missouri Association for the Blind, were among St. Louis physicians who acted as hosts for Dr. Carl Linder, of Vienna, at a breakfast, July 31, at the Coronado Hotel. Most of those present had been associates of the Viennese specialist before the war. Dr. Linder, who had been making a study of causes of blindness among the Indians in New Mexico, spent only a few hours in St. Louis on the way to New York.

The State Board of Pharmacy revoked the license of Dr. R. B. Horton following a hearing August 2 in Kansas City. The Board unanimously sustained a charge that Dr. Horton had accepted money as payment for "influence" in the attempt to obtain a license for Lonnie T. Jackson, of Monett, who testified he had mortgaged his household goods for \$250 to pay for the "influence"—which even then failed to get him the license. Jackson did, however, get his money back, after E. C. Medlin, a Monett lawyer for Dr. Horton, had demanded that it be returned. Jackson is married and has two small children. He had twice failed to pass examinations for an assistant pharmacist's license and, he testified, understood that for the fee to Dr. Horton he was to obtain some special instruction to aid in the third attempt.

An elaborate Fourth of July parade and a lively all day picnic were held at State Hospital No. 2, St. Joseph, as the first event of the sort at this hospital and a most unusual one for any institution of its type.

At 10 a. m. a long line of floats and decorated automobiles left the grounds, paraded through the town and returned to the hospital grounds for an afternoon of field contests, band music, sandwiches—12,000 of them—soda pop, ice cream, pickles, cakes, nuts and lemonade. Among the floats was one prepared by the occupational therapy department decorated with a huge Ameri-

can flag made of poppies and a number of women in poppy costumes. The domestic department's float was a Japanese tea garden with all the trimmings, even to the geishas. The sewing room depicted Betsy Ross busy with the first American flag and the dairy department showed a Dutch boy and girl, a windmill and a calf. A comic picture, an aged negro smoking blissfully while the Old Lady did the washing, was presented by the laundry division. Patients also organized a clown band, in addition to the professional band which followed the motorcycle policemen in the parade and played for the afternoon of picnicking.

A striking paper on "The Adult Cripple" by Dr. Archer O'Reilly, of St. Louis, Chairman of the A. M. A. Section on Orthopedic Surgery, appeared in *The Journal of the American Medical Association* for July 21, 1928, from which we quote:

"THE JOURNAL this year lists sixty-two orthopedic hospitals in the United States with 5,595 beds; in at least forty-one of these hospitals 3,183 beds are definitely for children, and most of the others take both children and adults," cited Dr. O'Reilly. "There are also beds in general and industrial hospitals, but these require a quick turnover, and unless the patients are moved the service soon becomes clogged. Other patients must wait, often suffering economic loss and possibly a most serious permanent disability. There should be convalescent hospitals for adult cripples, either public or private, in every state and large industrial community, to relieve the strain on the hospital; there should also be more strictly orthopedic hospitals for adults.

"A beginning along this line was made in the Hospital for Crippled Adults at Memphis, but the example has not been followed in many other places. Dr. W. C. Campbell, in a letter, states that it is the only hospital for crippled adults that he knows of in this country.

"Joint tuberculosis is treated in many of the state and other hospitals for tuberculosis, but such cases comprise only a small part of the adult cripple population, and many of these hospitals are not equipped for the care of orthopedic cases and take comparatively little interest in them. This is also true of the ordinary convalescent hospital or home.

"The problem of the adult cripple is big enough and important enough to demand these facilities of treatment, so that the patient can be hospitalized long enough to insure the maximum physical rehabilitation.

"That the adult cripple is an important economic problem has been recognized by the states and by the federal government. The Federal Civilian Vocational Rehabilitation Act aims to promote the vocational rehabilitation of adult cripples through co-operation with the states. This movement has progressed rapidly, and by June, 1927, forty-one states had accepted the provisions of the federal bill. In some of the states, however, only a small beginning has been made. The economic importance of rehabilitation is illustrated by statistics from Indiana. Here, the average weekly wage before injury of a

group of persons rehabilitated in 1924 was \$10.38; after rehabilitation it was \$21.13. Of the group, 41 per cent. were unable to earn before rehabilitation and 20 per cent. had never earned. The average weekly wage of those working was \$19.65 before injury; after rehabilitation it was \$22.68. Those who had never worked were given an average earning capacity of \$17.20. According to Bulletin 120 of the Federal Board of Vocational Education, in the United States the average weekly wage of all persons rehabilitated in 1924 was \$26.07. Their life expectancy was twenty years, which gives them an earning capacity of \$147,004,000, at a cost to the state and the federal government of \$1,242,557. It costs about \$235 to rehabilitate a disabled person, and about \$300 to \$500 a year to maintain one who is unable to work.

"In order to secure the highest type of vocational rehabilitation it is necessary to secure the greatest amount of physical rehabilitation. A consideration of the figures quoted will show that not only humanitarian motives but also economic principles justify the establishment of adequate hospitals manned by expert staffs devoted to the treatment of the adult cripple."

A \$5,000 appropriation for the crippled children's service conducted by the state at the University of Missouri Hospital, Columbia, which has exhausted its \$35,000 appropriation for this year, was voted July 23 by the Eugene Field Foundation for the Relief of Crippled Children. This was the second contribution from this foundation, which has headquarters in St. Louis. The state service has to depend on such aid for the remainder of the year but is expected to obtain a new appropriation from the legislature next year.

The United States Civil Service Commission announces open competitive examinations for senior medical officer, medical officer, associate medical officer, assistant medical officer, junior medical officer (intern). Applications must be on file with the Civil Service Commission, Washington, D. C., not later than December 29. The examinations are to fill vacancies in hospitals of the Veterans' Bureau, the Public Health Service, and the Indian Service, and in other establishments of the federal classified service throughout the United States. Applicants will not be required to report for examination at any place but will be rated on their education, training, and experience. There is especial need for specialists in tuberculosis and neuropsychiatry. Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or at the post-office or custom-house in any city.

Dr. Louis H. Burlingham, superintendent of Barnes Hospital, St. Louis, who was elected

President-Elect of the American Hospital Association at Minneapolis last year, was initiated into office at the annual meeting of the Association at San Francisco, August 9, 1928. He succeeds Dr. Joseph C. Doane, Philadelphia. The Hospital Association, composed of the heads of the leading American hospitals, will meet in Atlantic City in June, 1929. Dr. Burlingham addressed the meetings of the American Occupational Therapy Association and the Western Association of Dieticians which also met in San Francisco.

The fourth annual meeting and dinner of the Ensworth-Central-Northwestern Medical College Alumni Association will be held in St. Joseph, Thursday evening, October 11, 1928, following the clinical conference in Kansas City, October 9-11. There will be all day clinics, Friday, October 12, at St. Joseph hospitals. The secretary, Dr. C. W. Fassett, Kansas City, is very anxious to have a large attendance. The professors in the three colleges are eligible to membership and urged to attend.

OBITUARY

WILLIAM JOHN MCGILL, M.D.

Dr. William J. McGill, St. Joseph, a graduate of Marion Sims-Beaumont Medical College (now St. Louis University School of Medicine), 1903, died June 15, 1928, following an operation for empyema of the gallbladder, aged 57.

Dr. McGill, well known surgeon of St. Joseph, was a member of the staff of the Missouri Methodist Hospital. In 1915 he was department editor of the Medical Herald and Physiotherapist. He was a member of the Buchanan County Medical Society and a Fellow of the American Medical Association.

ALFRED BECKETT MILLER, M.D.

Dr. Alfred B. Miller, Macon, Mo., a graduate of Jefferson Medical College, Philadelphia, 1878, and dean of his profession in Macon County, died of a throat infection, June 24, at his home in Macon. Death at the age of 76 closed a career rich in the highest civic as well as professional honors. Beyond the clear-sightedness and efficiency as a practitioner and the fine personal integrity which had won him respect, there was in his character a warm and kindly vein which had made him friends throughout the state.

The entire town of Macon suspended business on the afternoon of Tuesday, June 26, in his honor. Old patients, confreres,

social and business acquaintances, men and women whose fathers and children, like themselves, he had brought into the world, thronged the residence where the body lay in state that day, and packed the Pearl Street Methodist Church, where he and Mrs. Miller had been leading members for more than half a century, for the funeral the following afternoon.

Dr. Miller was born on a farm near Palmyra, Marion County, on Feb. 1, 1852. He attended the public schools and Palmyra Seminary, Central College at Fayette and then the historic old Jefferson Medical College. He practiced in Shelbyville for four years, and on June 14, 1882, removed to Macon. Three days later he and Mrs. Miller transferred their membership from Shelbyville to the Pearl Street Church. Soon he was elected to the Board of Stewards, on which he served for the remainder of his life. He was president of the Board of Trustees, superintendent of the Sunday School for 20 years and teacher of the Men's Bible Class for 20 years, teaching it for the last time on the Sunday morning just one week before his death.

Throughout his career Dr. Miller kept abreast of the advances in both medicine and surgery. He contributed to periodical literature and read interesting and informative papers at many meetings. He was one of the founders of the Macon County Medical Society, and was elected President of the Missouri State Medical Association in 1892, presiding over the Sedalia meeting in 1893.

Besides all this, his energetic nature and his devotion to his community found expression in every movement for civic and material welfare. He was appointed a member of the board of managers of the State Hospital at Fulton in 1901, but resigned the next year. He was elected a director of the Macon Building and Loan Association in 1889, and became president the next year, holding the office until his death. In that 37 years the association grew along with the growing community from \$100,000 capital to \$250,000, then \$500,000, and then \$750,000 a year ago. Its last official action, taken at a meeting over which Dr. Miller presided six days before his death, completed the legal preliminaries to increasing the capital to \$1,000,000.

On Oct. 9, 1879, Dr. Miller and Miss Lilian Rush, daughter of the late Rev. Lilburn Rush, of Liberty, Mo., were married. She and three nieces and four nephews survive him.

AN APPRECIATION BY DR. FRANK G. NIFONG

There are not many physicians living who were present at the birth of modern scientific medicine and it is a rare privilege to have lived and been active in practice from the times of Pasteur and Lister. Such a one was Dr. A. B. Miller. There are few practitioners of his type remaining with us and in his passing our profession suffers a great loss.

He was a country doctor of the old school; a man of such sterling character and worth that he naturally became the leader of any good and progressive effort in his community. In his profession he was ever in the van; alert, eager and diligent in his efforts to keep up with the marvelous progress and changes taking place from the time of his commencement.

It was my privilege and to my great benefit to know him during the last twenty-five years since he was President of our State Association. He was an intimate friend of our revered mentor, Dr. A. W. McAlester, Sr. Indeed, do "birds of a feather flock together." Just before our Columbia meeting I had a letter from Dr. Miller, rather plaintive and sad, bemoaning the frequency of some evil and unethical practices which have become prevalent with some of our hospitals and among certain medical men, hoping something might be done about it. He was most meticulous in all his relationships and his ethical standards were higher than those generally prevalent today. He exemplified the truth that a Christian gentleman could be the most efficient physician and render a more acceptable service than any other.

Always a seeker of truth, he was a churchman and a man of sublime faith. He believed that God is Truth and any development of science could in no way disturb Truth. He believed in miracles, the miracles of truth. The miraculous demonstration made by the prophet Elijah on Mount Carmel to prove to the ancient Jews that their God was the true God was believed by him just as was the modern miracle performed by the prophet Pasteur when he demonstrated immunity to anthrax at the farm of Pouilly le Fort. Both were prophets of God to him, demonstrating miraculously that God is Truth—God's truth which has the power to make men free. Such love of truth with a faith so sublime can render service immeasurably while active and living, and also through us who follow if we worthily imitate his example. A life of such service with a death in faith

so sublime may well be expressed in George Matheson's immortal hymn of faith:

O Love that will not let me go,
I rest my weary soul in Thee;
I give Thee back the life I owe,
That in Thine ocean depths its flow
May richer, fuller be.

O Light that followest all my way,
I yield my flickering torch to Thee;
My heart restores its borrowed ray,
That in Thy sunshine's blaze its day
May brighter, fairer be.

O Joy that seekest me through pain,
I trace the rainbow through the rain,
And feel the promise is not vain,
That morn shall tearless be.
I cannot close my heart to Thee;

O Cross that liftest up my head,
I dare not ask to fly from Thee;
I lay in dust life's glory dead,
And from the ground there blossoms red
Life that shall endless be.

ALEX T. McMURTRY, M.D.

Dr. Alex T. McMurtry, Salem, a graduate of the Eclectic Medical College, Cincinnati, Ohio, 1881, died at his home July 27, 1928, of heart disease, aged 73.

Dr. McMurtry was a former president of the Dent County Medical Society and represented his Society at the Annual Meeting of the State Association held at Columbia in May, 1928. He was at one time coroner for Dent County. Previous to locating at Salem he practiced for seventeen years at Birch Tree, Missouri.

HARRY ROBSON HALL, M.D.

Dr. Harry R. Hall, St. Louis, a graduate of the Missouri Medical College (now Washington University School of Medicine), 1895, died July 25, 1928, at St. Luke's Hospital, of blood poisoning resulting from an infection of the neck, aged 57.

Dr. Hall was a practicing physician in St. Louis for thirty-two years specializing in diseases of the ear, nose and throat. He was a member of the St. Louis Medical Society and a Fellow of the American Medical Association. He was born in Chittenango, New York, in 1871. During the World War he served as captain in the Medical Corps. He is survived by his widow, one daughter and one son.

Untimely as was his passing, already he had served his profession and his community long and well.

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

Platte County Medical Society, March 10, 1928.

Miller County Medical Society, March 16, 1928.

Camden County Medical Society, March 23, 1928.

Ste. Genevieve County Medical Society, March 26, 1928.

Atchison County Medical Society, March 30, 1928.

Caldwell County Medical Society, April 14, 1928.

Scotland County Medical Society, May 1, 1928.

Schuyler County Medical Society, May 8, 1928.

Wright-Douglas County Medical Society, May 10, 1928.

Boone County Medical Society, May 23, 1928.

SOCIETY PROCEEDINGS

BOONE COUNTY MEDICAL SOCIETY

The regular session of the Boone County Medical Society was held at Columbia, July 3, 1928. The President, Dr. M. Pinson Neal, Columbia, called the meeting to order at 7:45 p. m. The minutes of the previous meeting were read and approved.

The Secretary, Dr. Hugh P. Muir, Columbia, read several telegrams from Honorable Harry B. Hawes concerning the narcotic tax fee and the deduction of traveling expenses while attending medical meetings; also telegrams which had been sent to Senator James A. Reed, Senator Harry B. Hawes and Congressman W. L. Nelson. A letter received from the University Woman's Glee Club thanking the Society for our token of appreciation sent them for the numbers rendered during the State Meeting was also read by the secretary. A letter from Honorable James A. Reed concerning the narcotic tax fee also received notice.

The committee of censors reported favorably on the applications of Dr. Harry Gullett, Harrisburg, and Dr. C. B. Lawrence, both of whom were unanimously elected to membership and were duly notified of their election by the secretary.

Dr. S. D. Smith, Columbia, moved that we, the members of the Boone County Medical Society, ex-

press to Dr. Dudley A. Robnett and his committees our very great appreciation of the splendid way in which they handled all the details of the Seventy-First Annual Meeting of the State Association making it such a complete success. The motion was seconded and unanimously adopted, and the secretary was instructed to convey to Dr. Robnett this expression of our appreciation.

A most interesting paper on "Common Orthopedic Disorders" was read by Dr. Frederick A. Jostes, of the University Hospital, Columbia. Various orthopedic appliances were demonstrated.

HUGH P. MUIR, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

About thirty-five members of the Clay County Medical Society, their wives and guests met at the beautiful Odd Fellows Home and Hospital, Liberty, July 12, at 1:00 p. m. The session opened with a dinner prepared by the little girl wards of the home—the class in domestic science—ably administered by Mrs. Rogers, the house matron. The repast was simple and satisfying, just the kind that contributes to bodily welfare; boiled country ham, string beans, corn muffins, hot rolls, iced tea, ice cream and cake—well, it was just right.

Mrs. Rogers made a crisp speech of welcome to which the President, Dr. S. R. McCracken, Excelsior Springs, responded with a short talk.

Miss Jean Courtney gave a reading that brought rounds of applause. Miss Courtney is a graduate of the Liberty High School and from the Home, a striking testimonial in herself of the efficiency of this great benevolent institution.

Dr. F. H. Matthews, Liberty, medical superintendent of the Home and Hospital, took the assembly in charge and presented abundant clinical material for study.

Drs. R. D. Irland, Sam H. Snider and Noah Adams, of Kansas City, and Dr. Ferdinand Shoemaker, specialist in diseases of the chest, United States Veterans' Hospital, Kansas City, conducted the clinic in a highly instructive manner, the proceedings being a symposium on tuberculosis and its successful management.

Dr. F. H. Matthews, Liberty, reported that out of over 200 inmates of the Home from tuberculous families only three deaths had resulted. The consensus of opinion was that as good results can be had in Missouri air as anywhere, the requirement being absolute rest for the patient as long as there was temperature elevation and rapid pulse. Many complications were mentioned and discussed.

Dr. Noah Adams, Kansas City, presented a patient, male, aged 74, with carcinoma of the left tonsil. Treatment was of little avail.

The Women's Auxiliary to the Clay County Medical Society also held their meeting. Mrs. J. J. Gaines, Excelsior Springs, with the cooperation of Mrs. C. H. Suddarth, Excelsior Springs, reported on the activities at the Fourth Annual Meeting of the Women's Auxiliary at Columbia last May.

The next meeting of the Society will be held at Excelsior Springs in October.

J. J. GAINES, M.D., Secretary.

CRAWFORD COUNTY MEDICAL SOCIETY

The June meeting of the Crawford County Medical Society was held in the offices of Drs. R. C. and W. J. Parker, Steelville, June 21, 1928, at two p. m. The meeting was called to order by the President, Dr. R. C. Parker, with the following members present: Dr. A. L. Barnard, Rolla; Drs. R. C. and W. J. Parker, Steelville. Visitors: Drs. C. E. Mat-

lock, St. Louis; W. H. Breuer and J. B. Underwood, St. James; J. P. Dunigan, W. P. Mattox and W. S. Rutherford, of Sullivan. The minutes of the last meeting were read and approved.

Dr. W. H. Breuer, St. James, read a paper on "A Country Doctor's View on Goiter" which was highly appreciated and beneficial to all present.

An interesting lecture on "Diagnosis and Treatment of Sterility," illustrated with several radiograms, was given by Dr. C. E. Matlock, St. Louis. It was a fine lecture from which we gleaned profitable information.

Our meetings are very much enjoyed by the members of the medical fraternity and from them we gain much that is good.

W. J. PARKER, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met in regular session at 7:30 p. m. Friday, June 8, 1928, in the offices of the county health department. The meeting was called to order by Vice President C. P. Fryer, Maryville, in the absence of President H. S. Maxwell, Hopkins. The following members were present: Drs. C. T. Bell, L. E. Dean, H. S. Dowell, C. P. Fryer, C. V. Martin, R. C. Person and F. C. Wallis, of Maryville; Eugene L. Crowson, Pickering; W. M. Hindman, Burlington Junction; C. D. Humbert Barnard; H. S. Rowlett, Skidmore. Guests: Drs. Charles C. Dennie and Raymond W. Swinney, of Kansas City; P. P. Nesbitt, Tulsa, Oklahoma; J. H. Ryan, Maryville; C. J. Garding, Conception Junction. The minutes of the meeting of May 11, 1928, were read and approved.

The Secretary, Dr. C. D. Humbert, Barnard, read a letter from Mr. J. W. Beeker, Executive Secretary of the Missouri Tuberculosis Association, accepting the Society's invitation to hold a Regional Conference at Maryville, September 25-26, 1928, as our guests.

Dr. R. C. Person, Maryville, moved that the Chair appoint a committee on arrangements to attend to the details of the conference. The motion was seconded by Dr. L. E. Dean, Maryville, and carried. The following committee was appointed: Drs. L. E. Dean, C. P. Fryer and R. C. Person, of Maryville.

The applications of Drs. C. J. Garding, Conception Junction, S. E. Metheny, Savannah, and J. H. Ryan, Maryville, for membership in the Society were read by the secretary. Dr. L. E. Dean, Maryville, moved that an investigating committee be appointed and instructed to report on the applications at the next regular meeting. The motion was seconded by Dr. E. L. Crowson, Pickering, and carried. The following committee was appointed by the Chair: Drs. C. D. Humbert, Barnard; C. V. Martin and W. M. Wallis, Jr., of Maryville.

Dr. R. C. Person, Maryville, moved that the delegate's report of the Seventy-First Annual Meeting of the State Association at Columbia last May, be dispensed with as THE JOURNAL would give the full data in an attractive form. The motion was seconded by Dr. L. E. Dean, Maryville, and carried.

Topics for future consideration of the Society were suggested as follows: Acute nephritis, infant feeding, skin diseases of infancy and childhood, complications of labor and their treatment, and goiter.

The meeting was then turned over to our Kansas City guests, Drs. Charles C. Dennie and Raymond W. Swinney, who had displayed real heroism in coming to this meeting; a veritable cloudburst the preceding night had put the roads in such a state that their trip had been quite hazardous and had

taken the whole day. Despite their hunger and fatigue they presented extremely able papers.

Dr. Charles C. Dennie, assistant professor of dermatology at the University of Kansas School of Medicine, gave a broad survey of "Diseases of the Tongue With Especial Reference to Syphilis." Dr. Dennie, knowing the country doctor's problems, was exact and specific in his exposition of diagnosis and treatment. His ideas were very heartily welcomed because they were conservative, practical, and valuable.

Dr. Raymond W. Swinney spoke on "Chronic Endocarditis" and laid especial emphasis on diagnosis, prognosis and treatment, leaving the more academic considerations to clinic and laboratory workers whose facilities for study are not to be found in the rural districts.

Drs. Dennie and Swinney, who were sent to us by the Kansas City Southwest Clinical Society, are masters in the art of addressing a medical group.

A "rapid-fire" round-table discussion which lasted for two hours followed these papers.

The meeting adjourned to the Knox Cafe for refreshments.

Meeting of July 13, 1928

The Society met on Friday, July 13, in the offices of the county health department at Maryville. The President, Dr. H. S. Maxwell, Hopkins, called the meeting to order at 8 p. m. with the following members present: Drs. C. T. Bell, L. E. Dean, C. P. Fryer, C. V. Martin, H. S. Rowlett and W. M. Wallis, Jr., of Maryville; Eugene L. Crowson, Pickering; W. M. Hindman, Burlington Junction; C. D. Humbert, Barnard; C. W. Kirk and H. S. Maxwell, Hopkins. Guests: Drs. C. J. Garding, Conception Junction; G. E. Horrocks, Maryville; Hugh L. Dwyer and Robert C. Davis, Kansas City. The minutes of the regular meeting of June 8, 1928, were read and approved.

The Secretary, Dr. C. D. Humbert, Barnard, read the application of Dr. G. E. Horrocks, Maryville, for membership in the Society. The president appointed an investigating committee consisting of Drs. C. D. Humbert, Barnard, C. T. Bell and H. S. Rowlett, of Maryville.

Dr. C. P. Fryer, Maryville, announced that the county health department would hold a preschool clinic the latter part of this month and asked the cooperation of members of the Society as examiners for this clinic.

Dr. W. M. Hindman, Burlington Junction, moved that the Society extend to the county health department our offer of cooperation in making examinations. Dr. C. W. Kirk, Hopkins, seconded the motion which was carried.

Dr. C. P. Fryer, Maryville, announced that the Orthopedic Section of the State University Hospital would hold a clinic for crippled children at Maryville in September and asked the moral support of the Society and the assistance of our members as examiners.

On motion by Dr. L. E. Dean, Maryville, Dr. Fryer was authorized to notify the Orthopedic Section that the Society will be glad to support their plan for corrective clinics, and that our members will assist with the examinations. The motion was seconded by Dr. C. V. Martin, Maryville, and carried.

The applications of Dr. C. J. Garding, Conception Junction, and Dr. J. H. Ryan, Maryville, were reported favorably and on vote they were duly elected to membership in the Society.

The application of Dr. S. E. Metheny, Savannah, was reported unfavorably and on vote the Society

rejected his application. The secretary was instructed to return the application to Dr. Metheny.

Dr. H. S. Maxwell, Hopkins, announced that the Society had for consideration the offer of the St. Francis Hospital to change the appointed date of its regular staff meeting to the date of our meeting, which is the second Friday in each month, so that both meetings could be held the same evening.

Dr. C. T. Bell, Maryville, discussed this question and the advisability of holding these meetings consecutively for the benefit of rural members.

Dr. W. M. Wallis, Jr., Maryville, moved that the Society accept the hospital's offer. The motion was seconded by Dr. C. V. Martin, Maryville, and carried.

On motion by Dr. C. T. Bell, Maryville, seconded by Dr. C. D. Humbert, Barnard, a vote of thanks was extended the hospital for the generous offer of a lecture room for the use of the Society's meetings.

The following topics were suggested by various members as being desirable for the attention of the Society at the next regular meeting: Eczema; acute infections of the hand; asthma and hay-fever; fractures (other than skull); infantile paralysis from the orthopedic standpoint; conjunctivitis; eye injuries.

Through the courtesy of the Kansas City Southwest Clinical Society Dr. Hugh L. Dwyer, Kansas City, assistant professor of pediatrics in the University of Kansas School of Medicine, and Dr. Robert C. Davis, Kansas City, assistant professor of medicine in the University of Kansas School of Medicine, furnished the scientific program.

Dr. Dwyer gave an extemporaneous talk on "Infant Feeding" in general, with blackboard sketches, diagrams and tables. Dr. Dwyer is an enthusiastic advocate of cows' milk, boiled and diluted, and of cane sugar, as baby foods. His ideas stressed simplicity; his remarks were given very close attention and were well received and approved.

Dr. Robert C. Davis addressed the Society on "The Hypertensive Heart." His talk, illustrated with lantern slides of electrocardiographic tracings, was exceptionally good and practical, presenting late essential pathologic data. His word pictures were finely drawn, and his points on treatment were valuable.

A number of questions were answered by the speakers, then the meeting adjourned at a late hour without form.

Meeting of August 10, 1928

The Society met in regular session on Friday, August 10, 1928, in the lecture room of the St. Francis Hospital at Maryville. The attendance was numerically small as compared to our recent records but several of our members were away on their annual vacations and at least two others are confined to their beds by sickness. A quorum was present, however, so the meeting was called to order at 8 p. m. by the President, Dr. H. S. Maxwell, Hopkins. The following members were present: Drs. L. E. Dean, R. C. Person, Frank C. Wallis and W. M. Wallis, Jr., of Maryville; C. D. Humbert, Barnard; C. W. Kirk and H. S. Maxwell, of Hopkins; C. J. Garding, Conception Junction. Drs. Albert N. Lemoine and D. D. Stofor, of Kansas City, by courtesy of the Kansas City Southwest Clinical Society were present. Mother M. Augustine, superintendent of St. Francis Hospital, and Sisters M. Agatha, Gabriel, Gertrude, Helena and Hildegard attended the meeting as invited guests of the Society.

The reading of the minutes of the meeting of July 13 was dispensed with. The Secretary, Dr. C. D. Humbert, Barnard, reported that the membership committee had one application still under in-

vestigation, but on account of one member's absence from the county could not report until the next meeting.

The following topics were suggested for the Society's attention at the next meeting, Friday, September 14: Acute salpingitis and pelvic cellulitis; osteosarcoma; diseases of the gallbladder; fractures; ear complications in the exanthemata; eczema; nephritis.

There being no other unfinished business and no new business to come before the Society, the meeting was turned over to our Kansas City guests.

Dr. D. D. Stofer, Kansas City, read a careful and painstaking paper on "Asthma and Hay-Fever." He reviewed the history of this topic and gave a well balanced resumé of all present day knowledge on his subject, with special attention to differential diagnosis and treatment.

Dr. Albert N. Lemoine, Kansas City, a classmate of our President, Dr. H. S. Maxwell, Hopkins, at Kansas University some years ago, presented a paper on "Conjunctivitis," from the standpoint of the general practitioner. His remarks were highly practical and very valuable to every one of us.

Both of these papers were thoroughly appreciated by the entire audience and were freely discussed.

The meeting adjourned without form at a very late hour.

CHAS. D. HUMBERD, M.D., Secretary.

ST. FRANCOIS-IRON COUNTY MEDICAL SOCIETY

The St. Francois-Iron County Medical Society met at the Arcadia Valley Hospital, Ironton, June 27, 1928, as the guests of Dr. R. W. Gay. Thirty physicians were present from four counties. Through the courtesy of the Postgraduate Committee of the State Association, Drs. W. W. Graves, A. H. Hamel and J. Hoy Sanford, of St. Louis, furnished the scientific program.

Dr. W. W. Graves gave a very interesting talk on the "Early Symptoms, Diagnosis and Treatment of Syphilis" and presented two cases brought by Dr. E. F. Hctor, Superintendent of State Hospital No. 4, Farmington. The talk was very interesting and fully discussed by all present.

Dr. A. H. Hamel gave a forty minute talk, beginning with medicine thirty years ago and ending with arteriosclerosis. He brought out many points of interest, talking from a scientific standpoint and at times digressing to the plain old country doctor style. We all sat with our eyes and ears open and caught every word that fell from his lips.

At the proper hour Dr. J. Hoy Sanford appeared and gave his talk on the "Differential Diagnosis of Kidney and Abdominal Diseases." He gave us the cardinal points in making a diagnosis of these two conditions without the aid of a microscope or X-ray, then took up the diagnosis and treatment of the upper and lower urinary tract. Doctors, he is a great lecturer and from his talk we gained some profitable information.

Any one of the lectures would have paid us for the trip to Ironton as it was a regular intellectual feast.

Following the program we were invited into the dining room of the hospital where we were served delicious sandwiches, coffee and lemonade, all at the expense of Dr. Gay.

The following members were present: Drs. W. Harry Barron, C. U. Davis, M. B. Barber, S. C. Slaughter and E. E. Higdon, of Fredericktown; R. W. Gay, Ironton; R. C. Kitchell, Annapolis; W. H. Duckworth, St. Clair; T. L. Haney, F. L.

Keith and A. A. Meador, of Flat River; D. E. Smith and T. E. McGurk, Bonne Terre; E. F. Hctor, Ralf Hanks, O. A. Smith, B. J. Robinson and R. Appleberry, of Farmington; W. E. Aubuchon and Van W. Taylor, Leadwood. Visitors: Drs. W. W. Graves, A. H. Hamel, J. Hoy Sanford, O. C. Zink and Lee Pettit Gay, of St. Louis; E. L. Barnhouse, I. A. Marshall and Dr. Fitzpatrick, of Ironton; Drs. J. L. and S. F. Freeman, Potosi. Several laymen and attendants of the Arcadia Valley Hospital also attended the meeting.

The next meeting of the Society will be held at Farmington some time near the middle of September.

The physicians and the community are certainly to be congratulated on having a hospital so well equipped to do splendid work. The Arcadia Valley Hospital, under the direction of Dr. R. W. Gay, is located in a quiet zone; the grounds, the building and the interior are beautiful.

R. APPLEBERRY, M.D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY

The Stoddard County Medical Society met in regular session at the home of Dr. T. C. Allen, Bernie, July 11, 1928, at 7:30 p. m. with Dr. William J. Hux, Essex, in the chair. The following members were present: Drs. John P. Brandon and William J. Hux, Essex; William C. Dieckman and Frank LaRue, Dexter; Samuel S. Davis, Bloomfield; William H. Goad and T. C. Allen, Bernie.

Dr. T. C. Allen, Bernie, reported that thirty years ago there were fifty-four registered practicing physicians in Stoddard County whereas now there are only eighteen in spite of the fact that the population of the county has more than doubled in that time. This report brought out a lengthy discussion on the shortage of general practitioners in the rural districts.

Dr. Allen also gave a statistical report of his first 1600 obstetrical cases which was very interesting and created a general discussion by all of the members.

The next meeting of the Society will be held in Bloomfield.

FRANK LARUE, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.

President-Elect, Mrs. M. P. Ravenel, Columbia.

1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. James F. Owens, St. Joseph.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.

Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Schaffler, Kansas City; Mrs. Hudson Talbott, St. Louis; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Hinchey, University City; Mrs. H. A. Brierly, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler.

ORGANIZED COUNTIES AND PRESIDENTS OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. H. C. Brashear.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph
Butler.....	Mrs. L. B. Knecht.....	Poplar Bluff
Caldwell.....	Mrs. Emma A. B. Thompson.....	Breckenridge
Cape Girardeau.....	Mrs. W. W. Ford.....	Gordonville
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Davess.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. J. N. Barger.....	Albany
Greene.....	Mrs. Paul F. Cole.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
Henry.....	Mrs. R. D. Haire.....	Clinton
Holt.....	Mrs. F. E. Hogan.....	Mound City
Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
Jasper.....	Mrs. C. C. Cummings.....	Joplin
Johnson.....	Mrs. H. F. Parker.....	Warrensburg
Knox.....	Mrs. W. F. O'Conner.....	Edina
Laclede.....	Mrs. J. S. Scott.....	Nevada
Lafayette.....	Mrs. J. D. Guyot.....	Higginsville
New Madrid.....	Mrs. P. M. Mayfield.....	Portageville
Phelps.....	Mrs. S. S. McFarland.....	Rolla
Pike.....	Mrs. T. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Francois.....	Mrs. G. L. Watkins.....	Farmington
St. Louis City.....	Mrs. Raymond M. Spivey.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. E. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

WOMEN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

Fourth Annual Meeting, Columbia
May 15, 16, 1928

MINUTES OF THE EXECUTIVE BOARD

Missouri State Teachers' Association Building
Tuesday, May 15, 1928—Morning Session

The Fourth Annual Meeting of the Executive Board of the Women's Auxiliary to the Missouri State Medical Association was called to order Tuesday, May 15, 1928, in the Missouri State Teachers' Association Building, Columbia, at 9 a. m., by the President, Mrs. W. M. Bickford, Marshall. The following were present:

Mrs. W. M. Bickford, Marshall, President.
Mrs. Willard Bartlett, St. Louis, President-Elect.
Mrs. A. W. McAlester, Kansas City, First Vice President.
Mrs. W. T. Martin, Albany, Second Vice President.
Mrs. T. O. Klingner, Springfield, Third Vice President.
Mrs. M. P. Ravenel, Columbia, Fourth Vice President.
Mrs. A. B. McGlothlan, St. Joseph, Director.
Mrs. Frank Hinchey, St. Joseph, Director.
Mrs. M. P. Overholser, St. Joseph, Director.
Mrs. Harry F. Parker, Warrensburg, Director.
Mrs. M. A. Hanna, Kansas City, Recording Secretary.
Mrs. C. H. Suddarth, Excelsior Springs, Chairman of Education.

A motion was made by Mrs. A. B. McGlothlan to dispense with the reading of the minutes of the 1927 meeting inasmuch as they had been published in full in the August JOURNAL. The motion was seconded and carried.

REPORT OF PRESIDENT AND RECOMMENDATIONS

The President, Mrs. W. M. Bickford, read her report and recommendations. The following recommendations were approved and referred to the Annual Meeting for consideration:

Recommendations

1. That the Six Point and Nine Point child be stressed in the coming year's program.
2. That we assist the St. Louis League for the Hard of Hearing as far as possible in making a survey in our organized counties.
3. That we endeavor to work with the Extension Department of the University of Missouri, especially with the Farm Clubs and 4-H Clubs.
4. That we cooperate with the State Department of Education and the various organizations in their efforts to secure equality of opportunity in education in Missouri, which means not only mental but physical and hygienic opportunities for the children of our state.

REPORT OF THE CHAIRMAN OF ORGANIZATION

Mrs. Willard Bartlett, Chairman of Organization, reported having made trips during the year on Auxiliary business and offered four recommendations as follows:

Trips

To Washington in June, 1927, where as a member of the National Board she also represented the State President, Mrs. A. B. McGlothlan. To Chicago in November for a meeting of the National Board of the Women's Auxiliary to the American Medical Association. To Kansas City in February for an Advisory Committee meeting at the home of Mrs. George H. Hoxie. To Mexico, May 10, for the annual meeting of the Audrain County Auxiliary at the home of the President, Mrs. Robert E. Berrey.

Recommendations

1. Mrs. Bartlett's first recommendation, as presented to the Executive Board, dealt with methods of nomination. The recommendation was not given to the secretary for inclusion in the minutes so cannot be recorded in this report.

Mrs. A. B. McGlothlan moved, seconded by Mrs. Frank Hinchey, that Mrs. Bartlett's first recommendation be referred to a special committee consisting of Mrs. Bartlett, Mrs. Overholser, Mrs. Parker and Mrs. McAlester, to report to the general committee Wednesday morning. Carried.

2. I recommend that the Auxiliary compile and issue as early in the coming year as is practicable to do, a Year-Book, to contain a complete roster of the names and addresses of all the members, the National, State and County officers, Constitution and By-Laws, and a brief statement concerning organization, a calendar, and any other data that is deemed advisable. This Year-Book shall be financed by the securing of advertisements which shall conform to the standards of the State Medical Association.

Mrs. Frank Hinchey moved that the Year-Book be accepted and referred to the general meeting. Seconded and carried.

3. That hereafter the Auditor be added to the officers of the State Board.

Mrs. Overholser moved that this be adopted. Seconded and carried.

4. That a committee be appointed to revise our Constitution and By-Laws and present a draft of such revision to be voted on at the next Annual Meeting, this draft to be sent to all County Auxiliaries for their consideration not less than three months prior to the next Annual Meeting.

Mrs. Overholser moved that this recommendation be referred to the general meeting for consideration. Seconded and carried.

5. That the President-Elect be assigned the duties formerly carried on by the Chairman of Organization, which was extension work, and that the four vice presidents constitute her organization committee.

On motion this recommendation was adopted.

REPORTS OF VICE PRESIDENTS

Mrs. A. W. McAlester, First Vice President, reported correspondence with unorganized counties assigned her, but to date without results.

Mrs. W. T. Martin, Second Vice President, reported having organized Nodaway and Daviess Counties; two other counties were visited but as yet not organized.

Mrs. T. O. Klingner, Third Vice President, reported that she had invited the eligible members from the assigned counties to meet with the Greene County Auxiliary. They did not respond.

Mrs. M. P. Ravenel, Fourth Vice President, reported that at the request of Mrs. Bartlett, Chairman of Organization, she had written to the secretaries of the medical societies of the counties of Callaway, Marion, Monroe and Macon, and to a physician's wife in Callaway County. From two of the counties she received no answers. In one county, the fact that the medical society had no regular meetings made the organization of an Auxiliary impossible, and the physician's wife replied that at this time her county was not ready to organize.

TREASURER'S REPORT

The Treasurer's report was read by the Secretary. The report was not complete because of dues still coming in.

REPORT OF HYGEIA

The report of Hygeia was read by Mrs. A. B. McGlothlan, and the following recommendation was approved and referred for consideration to the Annual Meeting:

That we continue our work for Hygeia by methods which the individual counties find best adapted to their own particular locations, and that we make every effort to ascertain whether the best possible use is made of the magazine in schools where the subscriptions are donated.

Mrs. Kate Rubey, President of the St. Louis League for the Hard of Hearing, was introduced by President Bickford. Mrs. Rubey made a most interesting and convincing talk in behalf of the hard of hearing and asked for our cooperation and endorsement.

REPORT OF CHAIRMAN OF EDUCATION

Mrs. C. H. Suddarth, Chairman of Education, read her report, which was accepted.

REPORT ON AMENDMENTS

Mrs. M. P. Overholser, Chairman of Committee on Amendments, read her report as follows:

Article 4, Section 2, to be amended (a) by inserting after the word "committees," the words "and presidents of county auxiliaries and ex-presidents of the State Auxiliary," (b) By adding at the end of the section the words "of which Board, the president, president-elect, the four vice presidents, the secretaries and the treasurer shall constitute an Executive Council to transact business between the meetings of the Executive Board."

Article 4, Section 3 to be amended (a) by striking out the first paragraph (since it applied to the first meeting only), and (b) substituting for the words "subsequent annual meetings" the words "the annual meetings."

Respectfully submitted,
MRS. M. P. OVERHOLSER,
Chairman of Amendments Committee.

On motion the report was referred to the Annual Meeting.

A telegram received by President Bickford from the National President, Mrs. John O. McReynolds, was read by the secretary.

Greetings to the Auxiliary. Would urge each member have her club appoint Health Committee, physicians' wives who are members agree to serve on this committee planning on health program announced in Year-Book. This will in-

sure authoritative health information as outlined by organized medicine. Hope you will instruct your two delegates or alternates to vote for health film library with State Auxiliary as custodian distributing health films to County Auxiliaries, presenting these health moving pictures before schools, clubs and other organizations in community. Not expensive if well organized. Plans in detail will be presented at Minneapolis meeting. Hope to meet all there.

MRS. JOHN O. McREYNOLDS.

The following committee appointments were submitted by the President, Mrs. W. M. Bickford, and approved by the Executive Board:

Committee on Nominations

Mrs. A. B. McGlothlan, St. Joseph.
Mrs. R. P. Crank, St. Joseph.
Mrs. Carroll Smith, St. Louis.
Mrs. C. H. Suddarth, Excelsior Springs.
Mrs. Paul F. Cole, Springfield.
Mrs. J. S. Triplett, Harrisonville.
Mrs. John G. Lapp, Kansas City.

Resolution Committee

Mrs. S. D. Smith, Columbia.
Mrs. M. P. Overholser, St. Joseph.
Mrs. A. B. McGlothlan, St. Joseph.

Credentials Committee

Mrs. M. P. Neal, Columbia.
Mrs. A. W. McAlester, Kansas City.
Mrs. F. A. Howard, Slater.

On motion the meeting adjourned.

At one o'clock in the afternoon the members of the Executive Board, delegates and visiting women were most uniquely and hospitably entertained by the Boone County Auxiliary with group luncheons in the homes of their members.

At 2:40 o'clock at the Missouri University Medical Building, Dr. Frederick A. Jostes gave a most instructive and appealing paper on the crippled children's work in the Missouri University Hospital. The talk was preceded by lantern slides.

We were then invited by Dr. M. P. Ravenel to visit the various departments of the Medical Building. Dr. M. P. Ravenel, Dr. M. P. Neal and Dr. C. W. Greene had arranged various and most interesting exhibits for the pleasure of the Auxiliary and visiting women. From the Medical Building the wards of the University Hospital were visited, where the crippled children are cared for.

At 4 o'clock tea was served in the dining room by the nurses of the University Hospital.

At 8 o'clock the State Officers and Directors were at home to all delegates and visiting women on the Mezzanine Floor of the Daniel Boone Tavern. This was most informal.

Mrs. W. T. Martin, Albany, and Mrs. Carroll Smith, St. Louis, added much to the enjoyment of the evening by rendering a most delightful musical program.

MINUTES OF THE GENERAL MEETING

Missouri State Teachers' Association Building
Wednesday, May 16, 1928—9:00 a. m.

The General Meeting of the Fourth Annual Meeting of the Women's Auxiliary to the Missouri State Medical Association was called to order by the President, Mrs. W. M. Bickford, Marshall, at the Missouri State Teachers' Association Building, Columbia, Wednesday, May 16, 1928, at 9:00 a. m.

Mrs. M. P. Overholser opened the meeting with a most inspiring prayer.

The Address of Welcome was delivered by Mrs. M. P. Ravenel, Columbia, as follows:

ADDRESS OF WELCOME

Madam President, Officers, Directors and Delegates to the Fourth Annual Meeting of the Women's Auxiliary to the Missouri State Medical Association:

It is a great pleasure, on behalf of the Women's Auxiliary to the Boone County Medical Society, to give you a most hearty welcome. We, who are so fortunate as to live in Columbia, want you to share with us this spirit of cheerfulness, courtesy and cooperation. We have looked forward to and made preparations for months for this happy week, and we are glad that No. 40 runs by our door, for we love to have guests, and especially such distinguished guests.

With two junior colleges for women, a coaching school for Annapolis and West Point, and the great University of Missouri here, you must forgive us if we seem a little self-conscious of our educational advantages.

As wives of physicians and through that being in close touch with, if not an equal part of, the noblest of all professions, we have always been welded into a sisterhood. The thousands of ways in which each wife, by her patience, sympathy, generosity and discretion, has helped her husband to carry out the practical and idealistic work which his profession demands, is known only to the wife, be she the help-mate of a physician in the wider field of practice, or of one in the closer confines of the laboratory. This age-old sisterhood is now banded together and labeled an Auxiliary, which has a glorious opportunity of making stronger the ties of service and loyalty to the medical profession and through it, to the public.

Once again, let me assure you of our heartiest welcome, and of our desire to make your stay pleasant and to serve you in every way possible.

Response by Mrs. W. M. Bickford, President.

RESPONSE TO ADDRESS OF WELCOME

"The Leader of the Orchestra is always a man who has played second fiddle."

I have chosen this saying of Elbert Hubbard's because I have played second fiddle. For two years I played third fiddle, as County President. I was then asked to play second fiddle, as State Chairman of Education. During the year I played second fiddle I had the privilege of being under a wonderful director,—Mrs. A. B. McGlothlan, who was very careful to watch each note I struck, to be sure that it was true to the ideals of the Women's Auxiliary.

Each one of you in the Orchestra of course wondered what type of music we would have for the coming year when Mrs. McGlothlan passed on the baton to me.

You have all worked faithfully, responding to every call to practice. Local circumstances required each county to play a different instrument, as each had its own part to take in the beautiful symphony orchestra into which the Women's Auxiliary is developing.

Some counties may feel that they are not playing large enough or spectacular enough instruments, but I trust that none of you will feel that way, for we need the smaller instruments for perfect harmony, and your music is just as sweet.

The chairman and officers have sung our solos, and how beautifully they have sung but what could they have done without you to accompany them?

How useless all our rehearsals would have really seemed if we could not all have met together for this final concert, where we can discuss the different parts and be thrilled over the mastering of the difficult measures.

Where could we have found a more lovely setting for our concert than here in Columbia, at this most beautiful season of the year?

The Boone County Auxiliary, fully understanding the psychological needs for a final concert, has left nothing undone to promote and assure harmony in this concert.

On behalf of my Orchestra. I want to express gratitude to our hostesses for the cordiality and hospitality extended to us, and for the gracious words of welcome from the Boone County President, Mrs. M. P. Ravenel.

It is not I who has played the beautiful music, it is each one of you so marvelously playing your part.

And now as a new leader is about to take the baton and direct the work of this organization, I trust you will respond to her leadership in a way that will make the coming year the greatest in the history of the Women's Auxiliary to the Missouri State Medical Association.

Mrs. A. B. McGlothlan moved that the reading of the minutes of the last Annual Meeting be dispensed with inasmuch as they had been published in the August JOURNAL. Seconded and carried.

The minutes of the Fourth Annual Executive Board Meeting were read, corrected and adopted.

The President requested Mrs. A. W. McAlester, First Vice President, to preside while she read her report.

Mrs. W. M. Bickford, President, read her report as follows:

PRESIDENT'S REPORT

The past year has been a strenuous one for me, but through the contact which the work has given me I feel fully

repaid for the many hours I have spent at my desk, attending conferences and visiting auxiliaries.

At the close of the Annual Meeting held in Sedalia last May 3 and 4, I had an Executive Board meeting, according to our Constitution and By-Laws.

I appointed the chairmen for the year; at the same time I asked Mrs. M. P. Overholser to represent the Auxiliary in the State and County Parks Conferences, and Mrs. George H. Hoxie to represent the Auxiliary on the Board for the Crippled Children of Missouri; they both accepted the appointments. I requested Mrs. L. S. James to act as editor, as well as corresponding secretary, for our column in THE JOURNAL. Mrs. James has carried on the JOURNAL work entirely by herself and with much praise from Dr. E. J. Goodwin.

I asked the past presidents to act as an advisory committee during my administration, which they kindly consented to do. I am deeply grateful for the time they have given me for three conferences held in Kansas City, as well as the valuable correspondence.

I had two conferences in Excelsior Springs with the Chairman of Education, which were helpful to us both. Since the Chairman of Hygeia was an ex-president, the conferences with her were more on general work.

I had the pleasure of meeting with the Boone County Auxiliary twice and once with their Chairmen for arranging for this Annual Meeting.

I regret very much that I could not accept all of the invitations from County Auxiliaries to visit them, but my home duties would not permit my doing so.

I was a guest at a Tri-County medical banquet in Boonville in July (Cooper, Lafayette, Saline) and said a few words on Hygeia.

I was chosen by my own local Tuberculosis Society, though I am not an official member, to be their representative at the Mississippi Valley Conference held in St. Louis last fall. It was a most delightful, as well as instructive, three-day conference. During this conference I was most unexpectedly introduced as State President of the Auxiliary at the Annual Meeting of the Missouri Tuberculosis Association, and was also asked to give an outline of our activities. On the third day I had the honor of being a guest and giving a talk on our year's program at a tea given by Mrs. Willard Bartlett to the officers and directors of the City of St. Louis Auxiliary.

Only once has it been necessary for me to have the Corresponding Secretary transact business by mail to the Executive Board, as we were again this year asked by the State Board of Health to contribute \$5.00 toward prizes for the State Poster Contest, held in Jefferson City the first week in May. Our Treasurer sent the five dollars toward the prizes.

I was also requested by Dr. Irl B. Krause to appoint two out of our ranks as judges for the State Poster Contest. Mrs. S. P. Howard and Dr. Blanche Hopkins were our representatives.

The St. Louis Branch of the Welfare League wrote asking if our organization would cooperate by assisting them in creating public sentiment in regard to the bill being introduced by Representative Cochran, for special care of drug addicts in our prisons. This request I referred to Dr. Herman E. Pearse, Chairman of the Committee on Public Policy of the Missouri State Medical Association. Dr. Pearse indorsed the work and I referred it to Mrs. E. T. Gibson, our Chairman of Legislation.

The St. Louis League for the Hard of Hearing wrote asking for suggestions and help from us in making a survey of our state to determine the number of children and adults that are afflicted with defective hearing. This I also referred to Dr. Pearse which he heartily indorsed. I invited one of their representatives to attend our Executive Board meeting, and also requested literature from them which each one of you has in the envelope you received when you registered.

In February I appointed Mrs. M. P. Overholser, Chairman of the Committee on Amendments, and Mrs. A. B. McGlothlan, Chairman of the Nominating Committee.

About 1800 letters have gone out from my desk in the past year; this does not include much literature and printed material sent out.

Words cannot express my gratitude to the chairmen and officers who have so faithfully and efficiently assisted me in the past year.

My year was made very pleasant by the help and encouragement which was given me by Dr. Frank G. Nifong, Dr. E. J. Goodwin and Dr. Herman E. Pearse. I do not think any president could have had a finer group of women and men with which to work than I have had.

I feel that we all owe much sincere thanks to the men who so willingly consented to be on our program at this meeting, also to the Missouri State Teachers' Association for the use of their beautiful new building, and to all lay people who have in any way whatsoever assisted in making this three-day meeting a success. Also hearty thanks to the graduate nurses of Columbia for the tea which they are so graciously giving in our honor Thursday afternoon, and to Dr. M. P. Ravenel, Dr. Neal and Dr. Greene for the open house at the Medical Building and the interesting exhibits which they had arranged for us. Also to the University Hospital for the pleasure of visiting their wards and the

tea in their nurses' dining room.

A mere expression of thanks can never convey the feeling I will always have toward the Boone County Auxiliary for attending to the many details for this Annual Meeting, for the generous hospitality extended to us all, and especially for the very lovely group luncheons on Tuesday in their homes and the tea to be given on Wednesday, again in our honor. I am sure none of us will ever forget the cordiality extended to us during these three days.

Thirty-eight counties have been on the year's mailing list as having had an organization. Twenty-two have paid State and National dues, three members at large, who are, Mrs. W. H. Breuer, Phelps County, Mrs. Bondurant Hughes, Chariton County, and Dr. Emma Thompson, Caldwell County.

I have four recommendations to make:

Recommendations

1. That the Six Point and Nine Point child be stressed in the coming year's program.

2. That we assist the St. Louis League for the Hard of Hearing as far as possible in making a survey in our organized counties.

3. That we endeavor to work with the Extension Department of the University of Missouri, especially with the Farm Clubs and 4-H Clubs.

4. That we cooperate with the State Department of Education and the various organizations in their efforts to secure equality of opportunity in education in Missouri, which means not only mental but physical and hygienic opportunities for the children of our state.

Respectfully submitted,

Mrs. W. M. BICKFORD, President.

Mrs. Bickford made a motion that her recommendations be referred to the Resolutions Committee. Seconded and carried.

Mrs. A. W. McAlester then gave the chair back to Mrs. Bickford, who continued the meeting.

REPORT OF THE CHAIRMAN OF ORGANIZATION

Mrs. Willard Bartlett, Chairman of Organization, read her report from the special committee on her first recommendation to the Executive Board as follows:

1. That each County Auxiliary, not less than one month prior to the Annual Meeting, send to the Corresponding Secretary the name of one of its members as a suitable nominee for some one designated elective office, and from such reports the nominating committee may make up the list of nominees submitted for election at the Annual Meeting.

The President asked if it was the pleasure of the Board to vote on Mrs. Bartlett's recommendations individually or collectively.

Mrs. McGlothlan moved that they be voted on individually. Seconded and carried.

Mrs. Hoxie moved that Mrs. Bartlett's first recommendation be accepted and referred to the Resolutions Committee. Seconded and carried.

2. I recommend that the Auxiliary compile and issue, as early in the coming year as is practicable to do, a Year-Book, to contain a complete roster of the names and addresses of all the members, the National, State and County officers, Constitution and By-Laws, and a brief statement concerning the organization, a calendar, and any other data that is deemed advisable. This Year-Book shall be financed by the securing of advertisements which shall conform to the standards of the State Medical Association.

Mrs. Hinchey moved that the Year-Book be adopted. Seconded and carried.

3. That hereafter the Auditor be added to the officers of the State Board.

Mrs. Overholser moved that the incoming President appoint an Auditor to audit the finances of the Auxiliary the coming year. Seconded and carried.

4. That a committee be appointed to revise our Constitution and present a draft of such revision to be voted on at the next Annual Meeting, this draft to be sent to all county auxiliaries for their consideration not less than three months prior to the next Annual Meeting.

Mrs. Hoxie moved a Revision Committee be appointed by the President. Carried.

5. That the President-Elect be assigned the duties formerly carried on by the Chairman of Organization, which was ex-

tension work, and that the four vice presidents act as her organization committee.

On motion this was accepted.

Mrs. Bartlett moved that her recommendations be referred to the Resolutions Committee. Seconded and carried.

REPORTS OF VICE PRESIDENTS

Mrs. A. W. McAlester, 1st vice president, reported correspondence with unorganized counties assigned her, but to date without results.

Mrs. W. T. Martin, 2nd vice president, reported having organized Nodaway and Daviess Counties, and two other counties visited but as yet not organized.

Mrs. T. O. Klingner, 3rd vice president, reported she invited the eligible members from the assigned counties to meet with the Greene County Auxiliary. They did not respond.

Mrs. M. P. Ravenel, 4th vice president, reported that at the request of Mrs. Bartlett, Chairman of Organization, she wrote to the secretaries of the medical societies in the counties of Callaway, Marion, Monroe, Macon, and to a physician's wife in Callaway County, and from two of the counties she received no answer. From one county the fact that the medical society had no regular meetings made the organizing of an Auxiliary impossible, and the physician's wife replied that at this time her county was not ready to organize.

Daviess County organized July 6, 1927, Mrs. Doolin, President.

Nodaway County organized May 11, 1928, seven members, Mrs. H. S. Maxwell, Hopkins, President.

The four Vice Presidents' reports were accepted.

Address by Dr. F. G. Nifong

Dr. Frank G. Nifong, President of the Missouri State Medical Association, was introduced by Mrs. Bickford and gave a very inspiring and constructive talk. His subject was, "The Ideals of the Medical Profession and How the Auxiliary May Assist in Obtaining Them."

Dr. Nifong began by tracing the ideals of loyalty and service back to the oath of Hippocrates, formulated before the Christian era, yet still embodying for the doctor the highest ethics of his profession. He then pointed out that the last fifty years have seen the evolution of scientific medicine. Before that time the practice of medicine was an art, not a science. Now, it is or should be both. Applied knowledge is art after all. But down through the ages the ideal of service never varied or changed. Service, the greatest word in the language, except perhaps the word love, is still the watchword of the medical profession, and it is the opinion of thoughtful leaders of today that service can best be rendered humanity by education. Here lies the opportunity for the Women's Auxiliary. If, remembering at all times the high ideals of the medical profession and ever avoiding the blatant and ostentatious, the Auxiliary will embark on a campaign of education among children, that blessed age so susceptible to impression, like wax to receive and marble to retain, then said Dr. Nifong, the organization will in his opinion find its best and truest service, not only to humanity but to the medical profession.

REPORT OF THE TREASURER

In the absence of the Treasurer the Secretary read an unfinished report.

Mrs. A. B. McGlothlan moved and Mrs. G. H. Hoxie seconded, that the outstanding bills be called in, and after being O. K'd by the President, Mrs. W. M. Bickford, be paid by the present treasurer before the balance be turned over to the new treasurer. Carried.

REPORT OF CORRESPONDING SECRETARY

The report of the Corresponding Secretary was read by Mrs. L. S. James, as follows:

I have sent out one hundred and ten letters.

A request for an expression regarding the Auxiliary contributing to the State Poster Contest brought splendid replies from many of the women of the state expressing themselves as favoring anything pertaining to health conditions sponsored by Dr. Krause. All replies received were in the affirmative. A few of these letters were not answered at all.

The National Auxiliary has requested the names of all members by counties. I sent letters to each county organization requesting a roster of members. Quite a number of

the county secretaries have not as yet responded to this call. I am holding up this report hoping to hear from every county.

I am sure that every one will be pleased to know that many of the County Auxiliaries show a gain in membership over last year.

Respectfully submitted,
MRS. L. S. JAMES,
Corresponding Secretary.

On motion the Secretary's report was accepted.

REPORT OF PUBLICITY IN STATE JOURNAL

Our work with the STATE JOURNAL has been a pleasure in many ways. Dr. Goodwin has extended us every courtesy possible. Our thanks are due him for the interest he has shown in our work.

So much good material, of general interest, has been sent in from all sections of the state that it has been impossible to use all of it in the space allotted us. At times we have been disappointed that we could not have more space in the JOURNAL; yet we recognize the fact that since we are only an Auxiliary, the medical news must take first place. And this is as we would have it. Dr. Goodwin has given us all the space he could and we appreciate his consideration for our work.

I recommend that each woman in sending material for the STATE JOURNAL, use her husband's initials in her signature. This is in compliance with a request from Dr. Goodwin.

Respectfully submitted,
MRS. L. S. JAMES,
Corresponding Secretary.

Mrs. James moved that her recommendation be referred to the Resolution Committee. Seconded and carried.

HYGEIA REPORT

Mrs. A. B. McGlothlan, Chairman of Hygeia, read her report as follows:

The statistical report which I am giving was mailed from Mr. Cargill's office May 8 and covers the period from May 1, 1927, to May 1, 1928.

There are some discrepancies between this report and some given in by the County Hygeia Chairman as to numbers of subscriptions. These will be adjusted before the awarding of Mrs. McReynold's prize. Many counties have sent in several subscriptions to teachers covering a period of less than twelve months. In Mr. Cargill's report the subscriptions are all figured down to a 12-month basis. I shall give both the total number and the number on a 12-month basis:

County	Total No.	12-Mon. Basis	Paid up Members
Boone	4	4	18
Buchanan	607	384	44
Caldwell	1	1	1
Cass	172	133 4/12	17
Mrs. Long's report a total of 184 for Cass County.			
Clay	37	37	12
Cole	65	36 10/12	17
Gentry	112	56 7/12	16
(Mrs. Martin's figures do not tally with these.)			
Greene	23	23	39
Henry	9	4 4/12	8
Lafayette	22	22	12
Marion	1	1	
Randolph	6	6	12
St. Louis City	66	65 7/12	271
Saline	18	18	22
Vernon-Cedar	10	10	
	1403	1013 3/12	

If these figures do not tally with those of the County Hygeia representatives, please see me after this session and we shall arrange to harmonize the reports.

Mrs. McReynolds, our National President, has offered a prize of \$100 to the State Auxiliary having secured the largest number of subscriptions between May 1, 1927, and May 1, 1928, and a prize of \$50 to the County Auxiliary having secured the largest number in proportion to its paid-up membership during that period. Some of the other states have been working hard in the March and April Hygeia campaign, and have materially increased their number of subscriptions. The manager's office has not yet been able to ascertain which state is ahead. Let us hope that it will be our own. In Mr. Cargill's letter of May 8, he says:

"May I ask you to tell the officers and members of the Women's Auxiliary of Missouri that we much appreciate their kind interest and the effort they have put forth during the past year in making Hygeia better known? The circulation is steadily increasing."

Those County Auxiliaries that have been able to keep in touch with the teachers to whom they have sent Hygeia have been most gratified by the reports they have received as to its value as an aid in teaching health. County nurses,

Red Cross nutritionists, county school superintendents, a director of hygiene in one of our cities, all have testified to its merits, while hundreds of letters from appreciative teachers convince me that we have found one way of bringing the scientific viewpoint of the medical profession before the public by means of a medium which they can understand and will appreciate.

Therefore, I recommend that we continue our work for Hygeia by methods which the individual counties find best adapted to their own particular localities, and that we make every effort to ascertain whether the best possible use is made of the magazine in schools where the subscriptions are donated.

Respectfully submitted,
MRS. A. B. MCGLOTHLAN,
Hygeia Chairman.

Mrs. McGlothlan moved that her recommendations be referred to the Resolutions Committee. Seconded and carried.

A letter was read by Mrs. A. B. McGlothlan, as follows:

I regret I have been unable to write you an expression of the interest taken in Hygeia in the public schools by students and teachers, so generously donated by the Buchanan County Medical Society and the Women's Auxiliary. I find it of inestimable value in teaching preventive medicine in Junior College, also to the teachers taking the course for college credits.

Last year one of my students attending Junior College wrote her thesis on "Quack and Quackeries" quoting almost entirely Hygeia to illustrate her points, safeguarding the public against fraud, and a few of my theses this year contain reference to columns from Hygeia. I believe the placing of Hygeia in the Public Schools the best means of acquainting the students and teachers along the lines of prevention, and would regret a discontinuance.

Very respectfully,
H. DELAMATER, M.D.,
Director of Hygiene, School District of St. Joseph, Mo.

REPORT OF CHAIRMAN OF EDUCATION

The report of the Chairman of Education was read by Mrs. C. H. Suddarth, which was accepted. The report follows:

The wheels of time have revolved again and again and another year has sped rapidly by and the time has come for the officers and committees of our beloved Auxiliary to appear and render an account of their stewardship, and in obedience to our law, I herewith submit the following report:

In sending out suggestions for programs I have asked each county president to bear in mind that we are an Auxiliary to the Missouri State Medical Association and our first step is to have the approval of the local medical society. I sent out the first general letter to the county presidents in August; this letter carried the recommendation of the Auxiliary at the Annual Meeting in Sedalia, also the deliberations of the House of Delegates of the American Medical Association in Washington, concerning the Auxiliary, which considered carefully the question of educating the public in matters of medicine and health; that such education will aid the medical profession in securing intelligent cooperation in the control of diseases.

To stress Hygeia more and more, as this is the best way of placing information in the homes of the community.

That each County Auxiliary be responsible for the appointment of a representative, who would see that health education be included in the Parent-Teachers and all other educational club programs, at least once during the year; and the articles from Hygeia be reviewed as part of the health program.

In October I sent out letters to all county presidents and chairmen of education, of whom I had names and addresses, reminding them again that the Seymour Plan for Disease Prevention, which was adopted for two years by the American Medical Association at Atlantic City, on May 26, also by the Education Committee of the Women's Auxiliary to our State Medical Association last year, was to be continued during the next six months the same as in the preceding year. October and November are to be devoted to educating the public concerning the nature and prevention of diphtheria; December and January to smallpox; February and March to concentrate on typhoid, and that all women's clubs be asked to give a special program emphasizing the fact that these dreaded diseases can be prevented.

Included in each of these letters was a bibliography of both literature and films, as Dr. Nifong, President of the State Medical Association, had suggested, that much effective work might be accomplished by the visualized educational plan. I also mailed under separate cover very effective pamphlets on these three diseases gotten out by the Metropolitan Life Insurance Company.

In April, I sent a note of greeting to each county president and chairman of education and a questionnaire as to

what each Auxiliary had accomplished during the year, the correct name and address of each president, number of meetings held, and nature of programs, and if they had any suggestions for the coming year. To this many have responded with very encouraging letters; others have remained silent.

Gentry County recommends for future work, a Doctor's Pension Fund, as almost all other organizations have such a fund. I will not take the time to report each county separately, as that will be taken up by the county delegate, but any county not represented, if I have their report, I will be glad to give it.

Most all counties have reported some educational work. I have sent out during the year over four hundred typewritten pages, not keeping any account of the letters written in long hand. I have answered all questions to the best of my ability.

I cannot conclude this report without attempting to express my deep appreciation of the many kindnesses shown me during the year.

"The work is done; How well only the Master knows. One never sees the fruit of all seed he sows; it may be our part to patiently turn the sod. One plants, another waters, but the increase comes from God."

Respectfully submitted,
MRS. C. H. SUDDARTH,
Chairman of Education.

REPORT OF THE CHAIRMAN OF LEGISLATION

Mrs. E. T. Gibson, Chairman of Legislation, read her report, which consisted of a letter sent to the President, Mrs. W. M. Bickford, early in the year, as follows:

We are sending to Texas for a copy of the *Journal of the Women's Auxiliary* to the American Medical Association. We read in the *Journal of the Missouri State Medical Association* for February a glowing account of the *Journal* and high praise of an article by you.

You are doubtless familiar with the general plan outlined in the bill introduced by Representative Cochran, of St. Louis, to authorize the establishment of a federal hospital for drug addicts.

Since the federal penitentiaries are very much overcrowded; since drug addicts cannot receive in these prisons the treatment they need for their rehabilitation; and since the presence of drug addicts in large general prisons is practically sure to result in inculcating the use of drugs among prisoners not previously addicted to their use, it is a matter of much importance that this bill be passed.

Your group would, we believe, be an ideal one to take an active part in the campaign in support of this measure. Perhaps you are already asking your members to write to senators and representatives from Missouri and to committee members endorsing this measure and urging support for it.

We will be very glad to know anything you have done, are doing, or will do for this work.

With good wishes,

Cordially yours,
CAROL BATES, Executive Secretary,
St. Louis Branch of Missouri Welfare League.

The Chairman of Legislation recommends that the Auxiliary support the bill for the establishment of a federal prison for drug addicts.

Mrs. E. T. Gibson moved that her recommendation be referred to the Resolutions Committee. Seconded and carried.

The report of the Auxiliary representative on the State Board for the Missouri Society for Crippled Children was read by Mrs. George H. Hoxie, as follows:

REPORT ON CRIPPLED CHILDREN

The Missouri Society for Crippled Children has outlined five things which organizations like ours may do to assist in the Missouri Crippled Children program, viz.:

(1) Assist in the organization of a County Chapter of the Missouri Society for Crippled Children, if no such organization exists.

The following pamphlets may be secured from the state office, 511 Central Trust Building, Jefferson City:

Instructions for Preliminary County Organizations.
Sample of constitution for County Chapter of the M. S. C. C.

(2) Assist the County Chapter in making a county survey to locate all the crippled children in the county. The pamphlet "How to Conduct a County Wide Survey" is obtainable from the Jefferson City office.

(3) Assist the County Chapter in organizing county clinics for the crippled children discovered in the survey. Another state pamphlet "The Organization of a County Clinic for Crippled Children" will be a help in this.

(4) Assist the County Chapter in arranging free hospitalization and after care for those patients whose parents cannot afford to pay for operation and care.

(5) Assist the County Chapter in securing from the tax supported agencies of the county, schools in which physically handicapped children may continue their studies.

Society owes every crippled child a chance to overcome his physical handicaps, and to be free from the mental handicap which comes from inability to attend the ordinary school. Society is not meeting this responsibility.

Respectfully submitted,
MRS. GEO. H. HOXIE,

On motion the report was accepted.

Dr. M. P. Ravenel, Columbia, was introduced by the President, Mrs. W. M. Bickford, and addressed the members on "The Advantages of the County Health Unit to the Profession and to the Laity." Certainly no one who heard the talk could doubt the advantages to both.

Dr. Ravenel pointed out that the cry of scientific medicine today was prevention. He said that an idea had arisen that some doctors opposed preventive medicine. He felt that if such had ever been the case, which he doubted, it was due entirely to misunderstanding. If, for instance, there had been objection on the part of doctors to the establishment of a county health unit, one of the most intelligent movements to educate the public along health lines ever started, he felt sure that such opposition was due to misunderstanding. Some one had tactlessly or stupidly tried to force such a movement on a community before its real purpose and method was understood. The feeling that the county health unit took money from the doctor's pocket was the greatest mistake in the world. The county health unit should go out into its community to find the physical defects and when found should advise the individual or his family to go to his family physician to have this defect corrected, and then by follow up visits or other methods should induce him to do so. This very thing was being done many times daily by county health units all over the country. Can any one object to that? Dr. Ravenel added he didn't think so. Just a matter of not understanding. "This," said Dr. Ravenel, "is a day of fads and isms. The organization of a county health unit, always with the approval and cooperation of the local medical society, is the best and most logical way to educate the public to turn to the physician, instead of to the fad of eating yeast or walking on all fours. Therefore, in my opinion, you will best benefit the medical profession as well as the laity by trying in a tactful and dignified way to further the organization of the county health unit and by working under and through the county health unit with the approval of your local medical society."

REPORT OF THE CHAIRMAN OF CRE- DENTIALS COMMITTEE

Your Credentials Committee, in accordance with Section 5, of the instructions issued by the State President, wishes to report the following:

1. Total number registered, 108.
2. Number of organized counties represented, 18.
3. Number of unorganized counties represented, 8.
4. Number of County Presidents registered, 11.
5. Number of accredited delegates registered, 27.
6. Number of guests registered, 70.
7. Number of State officers and directors registered, 9.
8. Total number entitled to vote, 36.
9. A member at large is entitled to vote provided she has proper credentials.
10. Number of such registered, 2.

Respectfully submitted,
MRS. M. P. NEAL,
Chairman of Credentials Committee.

REPORT OF CHAIRMAN OF AMENDMENTS

The Secretary read for the Chairman of Amendments Committee the following:

The Chairman of the Amendments Committee submits the following amendments for consideration:

Article 4, Section 2, to be amended (a) By inserting after the word "committees" the words "and presidents of county auxiliaries and ex-presidents of the State Auxiliary."

(b) By adding at the end of the section the words "of which Board the president, president-elect, the four vice presidents, the secretaries and the treasurer shall constitute an Executive Council to transact business between the meetings of the Executive Board."

Section 3, to be amended (a) By striking out the first paragraph (since it applied to the first meeting only).

(b) By substituting for the words "subsequent Annual Meetings" the words "the Annual Meetings."

Respectfully submitted,

MRS. M. P. OVERHOLSER.

On motion the report was accepted.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee begs to submit the following report:

OFFICERS

President-Elect, Mrs. M. P. Ravenel, Columbia.
First Vice President, Mrs. Harry Parker, Warrensburg.
Second Vice President, Mrs. T. O. Klingner, Springfield.
Third Vice President, Mrs. M. A. Hanna, Kansas City.
Fourth Vice President, Mrs. Hudson Talbott, St. Louis.
Recording Secretary, Mrs. David S. Long, Harrisonville.
Corresponding Secretary, Mrs. Theo. Prewitt Brookes, St. Louis.

Treasurer, Mrs. W. H. Goodson, Liberty.
Auditor, Mrs. Vilray Papin Blair, St. Louis.

ONE YEAR DIRECTORS

The resolution to make the ex-presidents ex officio members of the Executive Board leaves two vacant places for one year directors, and the nomination of Mrs. Long for Recording Secretary leaves a third vacancy on the list of one year directors. For these vacancies we propose the following names:

Mrs. H. A. Brierly, Peculiar, in place of Mrs. D. S. Long;
Mrs. C. M. Sneed, Columbia, in place of Mrs. A. B. McGlothlan;
Mrs. E. N. Chastain, Butler, in place of Mrs. George H. Hoxie. The one year directors would stand as follows:

Mrs. Frank Hinchey, University City.
Mrs. C. T. Ryland, Lexington.
Mrs. H. A. Brierly, Peculiar.
Mrs. C. M. Sneed, Columbia.
Mrs. E. N. Chastain, Butler.

DIRECTORS FOR TWO YEARS

Mrs. T. S. Fleming, Moberly.
Mrs. S. F. Freeman, Springfield.
Mrs. Robert McE. Schaffler, Kansas City.
Mrs. J. F. Owens, St. Joseph.
Mrs. J. J. Gaines, Excelsior Springs.

Respectfully submitted,

MRS. A. B. MCGLOTHLAN,
MRS. CARROL SMITH,
MRS. C. H. SUDDARTH,
MRS. PAUL F. COLE,
MRS. J. S. TRIPLETT,
MRS. R. P. CRANK,
MRS. JOHN G. LAPP.

On motion by Mrs. A. B. McGlothlan, seconded by Mrs. Frank Hinchey, the nominating ballot was made the elective ballot, and the Secretary was instructed to cast the ballot for the officers and directors as presented by the Nominating Committee. The ballot was cast by the Secretary and the nominees declared duly elected.

A request was made by Mrs. W. T. Martin that the Auxiliary send greetings to Nodaway County.

A motion was made by Mrs. Frank Hinchey to send greetings from the State Auxiliary to the newly organized Auxiliary in Nodaway County through Mrs. W. T. Martin. Seconded and carried.

Mrs. Martin also asked that the Auxiliary send greetings to an aged member of our Auxiliary who is stricken with paralysis.

Mrs. S. F. Freeman moved that we send greetings to an aged member of our Auxiliary who is stricken with paralysis. Carried.

REPORT OF THE RESOLUTION COMMITTEE

The Resolution Committee submits for your approval the following resolutions:

1. That the Auxiliary cooperate with the State Board of Health in its Six Point and Nine Point Child projects.

2. That we assist the St. Louis League for the Hard of Hearing as far as possible in making a survey of the hard of hearing in our organized counties.

3. That we endeavor to work with the Extension Department of the Missouri University, its Farm and 4-H Clubs, making for the development of the head, heart, hand and health of the children.

4. That we cooperate with the State Department of Education, Parent-Teachers organizations, and various other organizations, in their efforts to secure equality of opportunity in education in Missouri, which means not only mental but physical and hygienic opportunities for the children of our state.

5. That the incoming President appoint a committee to plan and publish a suitable Year-Book of the Auxiliary.

6. That the incoming President appoint an Auditor for the organization for the year.

7. That a committee be appointed to revise our Constitution and present a draft of such revision to be voted on at the next Annual Meeting, this draft to be sent to all County Auxiliaries for their consideration not less than three months prior to the next Annual Meeting.

8. That the State and County Auxiliaries continue co-operation in all feasible ways with the Missouri Society for Crippled Children.

9. That the organization support educational health measures and continue interest in increasing the circulation of Hygeia as a means of presenting information from the standpoint of scientific medicine.

10. That in order to avoid confusion, women use their husband's initials in their signatures to all official communications.

11. That each Auxiliary, not less than one month prior to the Annual Meeting, send to the Corresponding Secretary the name of one of its members as a suitable nominee for some one designated elective office, and from such reports the Nominating Committee may make up the list of nominees submitted for election at the Annual Meeting.

12. That our sincere and deep appreciation and thanks are tendered our outgoing President, Mrs. W. M. Bickford, and the other retiring officers and directors for the efficient work of the past year, and especially valuable service, part of which was formulating the program of this meeting, which brought to us the informing and inspiring addresses of Drs. Jostes, Nifong, Ravenel and Pottenger and Mr. Becker.

13. That our words are inadequate to express our thanks to the Boone County Auxiliary and Mrs. Ravenel, their President, for the gracious hospitality extended to the State Auxiliary and for the admirable arrangements devised for our care and entertainment.

Respectfully submitted,

MRS. S. D. SMITH,
Chairman.

There being no further business, a motion to adjourn was seconded and carried.

Respectfully submitted,

MRS. M. A. HANNA,
Recording Secretary.

The Secretary was assisted by Mrs. R. P. Crank, St. Joseph, in gathering recommendations and motions and in the taking of numerous addresses. The President, Mrs. W. M. Bickford, wishes publicly to thank Mrs. Crank for her efficient work.

OPEN LUNCHEON, WEDNESDAY NOON

At 12:30 Noon Luncheon was served in the dining room of the Missouri Methodist Church, the President, Mrs. W. M. Bickford, presiding. This luncheon was attended by the officers, directors, and County Auxiliaries, doctors and guests. One hundred and eighteen were served. The invocation was pronounced by Rev. Davis Haupt. During the luncheon the County Presidents gave their reports from outline blanks which had been sent them by the President.

The incoming President, Mrs. Willard Bartlett, was presented by Mrs. Bickford, and made an address, which follows:

ADDRESS BY MRS. WILLARD BARTLETT

Now, after such an introduction, won't you all give me the benefit of the doubt?

Our gracious President, Mrs. Bickford, has said in generous terms, that the task of organizing a Women's Auxiliary was put up to me four years ago and that, at the request of the Missouri State Medical Association, it has been done. In answer let me say first, that the idea behind the Auxiliary is so right that if having failed to induce others better equipped than I to undertake it, I had refused to pass the idea on, it would have been brought back to you later through some other channel. Perhaps it might have come here in Columbia. It is the value of the idea rather than the individual through whom it comes that counts.

By observation I have learned that a president seeks advice. So before coming I asked my special counsel what an incoming president talks about when introduced and the answer was, "About five minutes." Then I asked what one says and was told, "She always says that she didn't choose to run, and sometimes runs away." I will try not to.

It really has not been my expectation ever to be your president, for I have felt that I have done my particular work in another capacity. But you must believe that I value your confidence and will try to give you the best that is in me. I shall need your understanding, your help, and your strength where I am weak.

The idea behind the Auxiliary was so attractive four years ago, there was no escaping it once it had caught me. It was an infection to be passed on. It appealed to me as one particular aspect of the great thought, such a simple thought, that was beginning to take hold of the people, and trying to possess the world: The value of the common bond of friendship for drawing us all together in understanding.

The finest flower of the idea we have seen of late in the good-will flights of our Ambassador, who needs no naming. I visualize this Women's Auxiliary as an instrument for providing the contacts that should form that bond of friendship and understanding within the medical profession.

You may recall the story told of Charles Lamb, who was talking with a friend in his London Club when a stranger entered the lounge. Lamb remarked, "How I do dislike that man." His friend replied, "Why you don't even know him." "Of course, I don't," Lamb answered, "do you think I could hate a man I really know?"

We are definitely committed to all the implications of friendship and we would help translate and infuse into all groups of those connected with us, the fineness, the kindness, the radiance saving sense of humor that mark the personality of the individual woman or man: That quality which is sensed by the sick for whom one cares.

We read a reminiscence of Phillips Brooks in which the writer tells of looking out through his window onto Boston Common on a dark foggy day, when the scene was dull. Then as he watched, down the Common walked the familiar figure of Phillips Brooks. The writer adds significantly,—"Soon the sun came out."

This is not the expression of sentiment but of a real force that can transform weak groups into strong. We have seen it happen. If this idea has really taken hold of us it will be reflected in our attitude and actions.

This is not the time for me to talk program. But while as an organization we do not concern ourselves with legislation except in measures indorsed by the State Medical Association in which our assistance is asked, when that time comes we will do well to remember that our local representative thinks of us no longer as mere women but as voters. He regards us as did a small boy we knew who usually led his class in school but one month ranked third. His father inquired who ranked first and second; the boy replied, "Mary Smith and Mary Brown." "Do you mean to tell me you let mere girls outrank you?" "Yes, father, but you know they are not so very mere."

Our representatives are beginning to feel that way and want to please us, for recently one of them who has an admiration for the Greek language assured the woman to whom he was speaking that he would support a certain child welfare measure, "From Alpha to Omaha."

I cannot end without a word about the presidents of the State Auxiliary who have preceded me, of the city and county auxiliaries, of those other women too numerous to name, I regret, who in the past four years have had the vision to see the possibilities of usefulness ahead of us, and the courage to go into new fields and help in their development; who have at times been willing to be misunderstood but have still kept on harboring no grudge; who in their relations with others have had the true wisdom that shows itself by simplicity and the true power that shows itself by modesty, as has been said. I have come to love them. We owe them much.

Probably no women have thrust into their lives more constantly the needs of other people than have we. It calls for versatility, a many sidedness, the calm capacity to work without hurry and without ceasing that is not easy to attain. But we welcome all that keeps us alive and growing for as our outlook broadens the smaller things of life sink into their real place and cease to bother us.

I feel richer by far for being one of you, knowing that

in the year ahead we will pull together from "Alpha to Omaha."

Mrs. Bartlett was then presented with a beautiful corsage bouquet, a gift from the St. Louis City Auxiliary.

Mrs. M. P. Ravenel, the President-Elect, was also presented with a beautiful corsage bouquet from the Boone County Auxiliary.

Mr. J. W. Becker, Secretary of the Missouri Tuberculosis Association, was introduced and made an address, his subject being "The Relation Between the Missouri Tuberculosis Association and the Women's Auxiliary." Mr. Becker said in part:

"The laymen never know just how far to go in health work, but the efforts of the Tuberculosis Association are to present matters of health education scientifically in the schools and to back up and support the medical profession. Believing that our happiness is measured largely by the condition of our well-being, there is no angle of health work that is not in accord with tuberculosis work. They believe in the county health unit as a scientific force. They support Hygeia strongly and believe that its placement in the public schools should be followed up by suggestions in its use to teachers, by securing the cooperation of the county superintendents of schools, and by the awarding of prizes for such work as health posters. "Healthyland" and "Hygeia" are endorsed by the association as prizes in the Christmas seal sales."

Dr. F. M. Pottenger, Monrovia, California, was introduced as one Californian who was boosting for better health as well as for a better California. Dr. Pottenger's subject was "The Successful Combating of Tuberculosis."

Dr. Pottenger said that medical men, through contact with disease, become altruistic; that one cannot come in contact with disease without trying to prevent it.

Significant of the much that has been learned about the prevention, diagnosis, and treatment of tuberculosis, Dr. Pottenger said that twenty-five years ago tuberculosis caused more deaths than all other things, including war and pestilence, while today tuberculosis is fifth on the list, pneumonia, cancer, heart disease and cerebral hemorrhage leading in mortality.

Tuberculosis is the problem of all parents and of the whole community. It attacks most often the undernourished child and the child whose strength has been taxed by other diseases. Parents should be ever watchful for the usual symptoms of tiredness. Since most adult cases are caused from childhood infection, children should be removed from the environment of tuberculosis in order to reduce the future incidence of the disease. Tuberculosis is only dangerous because it takes so long to effect a cure and the patients won't realize it is there. Early cases should nearly always get well if there is co-operation between patient and doctor. Childhood cases respond most readily to treatment.

The experiment of Calmette in giving vaccine by mouth has vast possibilities. In that tuberculosis does respond to proper treatment Dr. Pottenger believes that every community should have its preventorium.

On motion the meeting adjourned.

At 4 p. m. all visiting women were guests of the Women's Auxiliary to the Boone County Medical Society at a most beautiful tea given at the Columbia Country Club. A most unusual musical program was rendered by the Stephens and Christian College girls.

The Boone County Auxiliary presented Mrs. Bickford, the outgoing President, with a very beautiful corsage bouquet.

At 6 p. m. there was a dinner session of the new Executive Board, Mrs. Willard Bartlett presiding,

and Mrs. R. P. Crank acting as Secretary pro tem, at the Columbia Country Club.

The following members were present:

Mrs. Willard Bartlett, St. Louis.
Mrs. Frank Hinchey, University City.
Mrs. A. L. Skoog, Kansas City.
Mrs. G. H. Hoxie, Kansas City.
Mrs. S. F. Freeman, Springfield.
Mrs. A. B. McGlothlan, St. Joseph.
Mrs. T. O. Klingner, Springfield.
Mrs. M. A. Hanna, Kansas City.
Mrs. C. T. Ryland, Lexington.
Mrs. W. M. Bickford, Marshall.
Mrs. M. P. Overholser, St. Joseph.
Mrs. A. W. McAlester, Kansas City.
Mrs. Robert M. Schaffler, Kansas City.
Mrs. Stanley P. Howard, Jefferson City.
Mrs. Mazyck P. Ravenel, Columbia.
Mrs. R. P. Crank, St. Joseph.

Mrs. Bartlett appointed the following chairmen of the standing committees:

Legislation, Mrs. A. W. McAlester, Kansas City.
Hygeia, Mrs. W. T. Martin, Albany.
Education, Dr. Blanche Hopkins, Jefferson City.
Revision of Constitution, Mrs. M. P. Overholser, St. Joseph.

Year-Book, Mrs. Harry F. Parker, Warrensburg.
Crippled Children, Mrs. G. H. Hoxie, Kansas City.

The expediency of membership in the Missouri Society for Crippled Children was discussed.

The suggestion of Mrs. Bartlett that a series of pertinent health questions be sent to county auxiliaries as a basis of discussion, if they cared to use them in connection with their regular meetings, was referred to Dr. Blanche Hopkins, Chairman of Education.

The following recommendations of the president, previously submitted and accepted at the Annual Meeting, were discussed.

1. That a state year-book be issued containing a complete roster of officers and members of all county and city auxiliaries with addresses, members at large, National officers, yearly executive boards, meeting places and dates of meetings of national and state organizations, constitution and by-laws in present and proposed form, a concise statement of the aims and work of the organization; this year-book to be financed by paid advertisements from advertisers of all types who conform to ethical standards.

2. That a membership drive be held in order to give an opportunity for those eligible women not now members of the Auxiliary to join and have their names included in the year-book. All names must be in by October 15.

3. All county presidents shall appoint a local year-book committee, or act themselves, to furnish data and secure advertisements.

A motion was made by Mrs. A. B. McGlothlan, seconded and carried, that the recommendation made by Mrs. E. T. Gibson, approved by Dr. H. E. Pearse, Chairman of the Committee on Public Policy of the State Medical Association, to support a bill establishing a federal institution for drug addicts be approved by this executive board.

Mrs. G. H. Hoxie, National Chairman of Education, suggested that the auxiliaries continue to work in cooperation with the state health department. Also, that wherever possible they work through other existing organizations and endeavor to correlate them for special work of the auxiliaries instead of doing scattered work themselves.

Tea, Thursday Afternoon

Thursday, from three to five p. m., the Auxiliary members and all visiting women were guests of the Graduate Nurses of Columbia at a most enjoyable tea at the Nurses' Home of the Boone County Hospital. The musical numbers given by the nurses added much to the pleasure of the afternoon.

TREASURER'S REPORT

Receipts

1927	
May 31, Received from Mrs. C. T. Ryland.....	\$289.39
State dues for 1928 by Counties:	
Audrain	\$.50
Bates	4.00
Boone	9.00
Buchanan	22.00
Cass	8.50
Clay	6.00
Cole	8.50
Clinton	2.50
Cape Girardeau	7.00
Gentry	7.00
Greene	19.50
Henry	4.00
Jackson	50.00
Johnson	4.00
Lafayette	6.00
Nodaway	3.50
Platte	4.50
Randolph	6.00
Saline	11.00
St. Louis City.....	135.50
Scotland	1.50
St. Louis County.....	11.00
Members at large:	
Mrs. W. H. Breuer, Phelps County.....	1.00
Mrs. Bondurant Hughes, Chariton County..	1.00
Dr. Emma Thompson, Caldwell County....	1.00
Total	\$623.89

Disbursements

1927	
June 2, Mrs. David S. Long.....	\$ 7.00
June 2, Mrs. A. B. McGlothlan.....	30.26
June 2, Mrs. W. M. Bickford.....	39.80
June 2, Mrs. M. P. Overholser.....	5.00
June 2, Mrs. H. F. Parker.....	1.75
June 14, Democrat-News Pnt. Co., stationery	30.25
Sept. 7, Democrat-News Pnt. Co.....	7.50
Sept. 26, Mrs. M. A. Hanna, typing 1927	
Minutes	10.00
1928	
Mch. 5, Democrat-News Pnt. Co.....	8.25
Mch. 11, Democrat-News Pnt. Co.....	5.00
Mch. 15, Dr. Irl Brown Krause, poster contest	5.00
April 3, Democrat-News Pnt. Co.....	2.50
April 22, Mrs. Irvine Abell, National dues...	68.25
May 1, Democrat-News Pnt. Co.....	12.75
May 7, Mrs. Irvine Abell, National dues...	3.75
June 11, Mrs. W. M. Bickford, President,	
office expense	54.20
June 11, Mrs. L. S. James.....	2.50
June 11, Mrs. C. H. Suddarth.....	7.50
June 11, Mrs. M. P. Overholser.....	2.00
June 11, Mrs. M. A. Hanna.....	5.00
June 11, Mrs. W. M. Bickford, guests'	
luncheon tickets and typing.....	6.00
June 11, Mrs. T. J. Draper for stamps.....	2.50
June 11, Mrs. Irvine Abell, National dues..	95.75
Aug. 11, Balance on hand.....	\$211.58
Number of counties paid 1928.....	22
Number of members at large paid 1928....	3
Total number of members.....	666
Respectfully submitted,	
MRS. T. J. DRAPER, Treasurer.	

REPORTS OF COUNTY PRESIDENTS

Audrain County

The Audrain County Branch of the Women's Auxiliary has been at all times most cooperative in all and every kind of public health work carried on in the county, such as the preschool clinics, six in all; the chest clinics, the sale of Christmas seals, and the distributing of tuberculosis literature. In fact, I may add that there has been no activity of this nature in which some member of the Auxiliary has not participated. They can at all times be depended upon to lend a helping hand when necessary.

As for our meetings, I will just mention the two outstanding ones. At the first one, held February 20, we had Dr. James Stewart as speaker and guest of honor. The Mexico Women's Club cooperated most beautifully and the members of our Auxiliary acted as hostesses. After a splendid talk from Dr. Stewart, we had a social hour when the women, and some of the men, of Mexico, had the pleasure of meeting the Doctor.

At the other meetings we had a no less distinguished guest, Mrs. Willard Bartlett, our charming Chairman of Organization. She made a most inspiring talk on the many benefits derived from membership in the Women's Auxiliary, which left every person just a wee bit more proud of their membership. We then had a tea when a number of Audrain

people had the pleasure of meeting Mrs. Bartlett, and from the number of complimentary remarks I have heard I feel that the honor was duly appreciated.

President, Mrs. R. W. Berrey, Mexico.

Incoming President, Mrs. Howard C. Brasbear, Mexico.

Number of years organized.....	3
Number of eligible members.....	16
Number of paid up members.....	1

Bates County

Have not accomplished much in educational or Hygeia work.

President, Mrs. E. N. Chastain, Butler.

Number of years organized.....	1
Number of eligible members.....	16
Number of paid up members.....	8
Average attendance	6
Number of meetings in past year.....	6

Boone County

The making of plans for the meetings of the Women's Auxiliary to the State Medical Association has been the engrossing subject of the meetings of the Women's Auxiliary to the Boone County Medical Society.

President, Mrs. M. P. Ravenel, Columbia.

Number of years organized.....	3
Number of eligible members.....	31
Number of paid up members.....	18
Average attendance	8
Number of meetings in past year.....	8
Number of subscriptions secured for Hygeia.....	4
Methods of raising funds, contributions.	

Buchanan County

Our chief work has consisted in placing Hygeia in the hands of our rural and city teachers, about 480 subscriptions, and in checking up to ascertain what use is made of them. The teachers, the county nurse, and the director of hygiene in the city schools report that the magazine is a very valuable aid in health teaching.

President, Mrs. Floyd H. Spencer, St. Joseph.

Number of years organized.....	3½
Number of eligible members, about.....	120
Number of paid up members.....	44
Average attendance	15
Number of meetings in past year.....	5
Methods of raising funds, benefit bridge parties.	
Amount of dues, \$1.00.	

At one of our meetings held at State Hospital No. 2, St. Joseph, when the women of the Auxiliary were guests of the physicians' wives, we were addressed by Dr. F. B. Fuson, Director of Health of the State Eleemosynary Institutions, on "The State Eleemosynary Institutions and Their Relation to the Public." At another meeting, Dr. C. A. Good, St. Joseph, read a paper on "The Prevention of Diphtheria and Smallpox," and at another a complete resume of the health work in St. Joseph City and Buchanan County was given by the preschool nurse, the county health nurse, and the director of hygiene in the city schools. Two enjoyable social meetings with a large attendance were held during the year. The Auxiliary is now cooperating with the County May Day Committee for a May Day program to be given May 26, when Dr. Stewart will come to present the Six Point buttons, and Cho-Cho, the health clown, will put on the program.

Caldwell County

Caldwell County is not organized. At present it is impossible. The physicians' wives are either old or have the care of their little ones. We have talked of organizing and hope to do so. We have Hygeia in our town and many rural schools.

If we cannot organize soon we trust we can report at least Hygeia in every school in the county.

EMMA A. THOMPSON, M.D.

Cape Girardeau County

President, Mrs. W. W. Ford, Gordonville.

Number of years organized.....	3 years, 10 months
Number of paid up members.....	14
Average attendance	10
Number of meetings in past year.....	9
Methods of raising funds, holding bake and rummage sales and sponsoring boat excursions.	
Amount of dues, \$1.00.	

Clay County

President, Mrs. J. J. Gaines, Excelsior Springs.

Number of years organized.....	4 years, 8 months
Number of eligible members, about.....	20
Number of paid up members.....	12
Average attendance	10
Number of meetings last year.....	6
Hygeia subscriptions	37

We meet with our husbands and our meetings start with

a joint dinner. Have Hygeia in most of the schools, white and colored.

We put on a program at our Ladies Civic Club meeting about child health and Six Point examinations which was well received.

Six Point examination of school children in the county: Total number examined, 1311. Total number of buttons given, 237. Since this examination, 15 Nine Point children have been examined and received buttons, which shows the interest taken by children. Have used Hygeia in our meetings and a book review of "The Life of Sir William Osler." Amount of dues, \$1.00.

Cole County

President, Mrs. Stanley P. Howard, Jefferson City.

Number of years organized.....	1
Number of eligible members.....	25
Number of paid up members.....	17
Average attendance	10
Number of meetings in past year.....	6

Sold several subscriptions to Hygeia and put Hygeia in schools of county. Aided in health week activities. Conducted Hygeia booths during health week. Presented Girl Scouts with First Aid Kit. Assisted on reception at St. Mary's Hospital on Hospital Day.

Methods of raising funds, donation of \$1.00 from each member.

Amount of dues, \$1.00 per year.

Fifty-four subscriptions to Hygeia in addition to the regular annual subscriptions sent in by Cole County physicians.

An immunization clinic was held at the Junior College in October, 1927. This clinic was organized by the Parent-Teachers Association, assisted by ladies of the Auxiliary; 127 children under school age received treatment.

The Auxiliary, assisted by P. T. A. held a summer Round-Up Health Clinic for the examination of children who will enter the schools of Jefferson City next fall. At this clinic we had Hygeia on display.

During the week of April 30 to May 6, the Auxiliary had Hygeia material on display at Annual Health Officers Meeting in Jefferson City and arranged for literature tables at several of the leading stores. Auxiliary arranged for social program and served on reception committee at banquet held for health officers, May 3.

At the first meeting of the teachers of Cole County a health talk was given by Dr. Blanche Hopkins. She gave out sample copies of Hygeia and explained to the teachers that the Auxiliary could be called upon to arrange for health talks or to render other assistance in their health program for the year. Later, the Auxiliary furnished 48 five-months subscriptions to Hygeia for rural schools.

We offered our assistance to the P. T. A. to arrange health talks for the six public schools. Requests were made through our President and speakers were furnished for most of the schools.

Our Hygeia Chairman served as General Chairman of the Cole County May Day Committee, organizing all the clinics, the health parade, and furnishing most of the publicity printed in local papers.

A first aid kit of khaki cloth was made and filled with supplies for the Girl Scouts. This is worthy of mention as kit was made in the shape of a small roll very much like the one housewives use for silver.

Dr. Hopkins assisted with the crippled children's clinic.

Cass County

Assisted in organizing Cass County Tuberculosis Society. Hygeia reviews given in different clubs. Placed Hygeia in all county schools. Mrs. H. A. Brierly addressed County Teachers Institute on "How to Use Hygeia in the School." Put on Hygeia Week with window displays in seven towns with an Auxiliary committee on hand to talk on Hygeia. Total Hygeia subscriptions, 180.

President, Mrs. J. S. Triplett, Harrisonville.

Number of years organized.....	4
Number of eligible members.....	30
Number of paid up members.....	17
Average attendance	4
Number of meetings in past year.....	4
Methods of raising funds, benefit bridge parties and donations.	
Amount of dues, \$2.00.	

Daviess County

Organized July 6, 1927.

President, Mrs. L. R. Doolin, Gallatin.

Gentry County

The first week in September, 1927, we had the Six Point child test. Approximately 20 children scored perfect. In November the Gentry County Medical Society and the Auxiliary entertained the doctors and their wives from adjoining counties. After the dinner there were two lectures by two noted physicians one on "Cancer" and one on "Tuberculosis." The lectures were open to the public and were very

interesting. In Hygeia work, we have 54 subscriptions of five months each to teachers of Gentry County. From May 1, 1927, to May 1, 1928, we have 94 yearly subscriptions, and two months extra to our credit. We are planning to take up some work of philanthropy in the future. Friendship and harmony are the key notes of the Gentry County Auxiliary.

President, Mrs. J. N. Barger, Albany.	
Number of years organized.....	3
Number of eligible members.....	30
Number of paid up members.....	14
Average attendance	8
Number of meetings in past year.....	5
Amount of dues, 50 cents.	

Greene County

We had a Year-Book again this year, using Hygeia as a basis of our monthly programs.

Assisted in securing subscriptions to Hygeia during State P. T. A. convention and secured 23 subscriptions.

We have the County Health Unit in Greene County, also Hygeia is used in our city schools credits being given for same. Dr. John Williams is in charge of our Health Unit and is doing everything possible in this line. Assisted in the summer Round-Up in P. T. A. work.

President, Mrs. T. O. Klingner, Springfield.	
Number of years organized.....	4
Number of eligible members.....	90
Number of paid up members.....	39
Average attendance	30
Number of meetings in past year	12
(Including 2 banquets, 2 picnics. Last meeting will be fourth Tuesday in May.)	
Amount of dues, \$1.00.	

Jackson County

President, Mrs. A. L. Skoog, Kansas City.	
Number of years organized.....	4
Number of eligible members, about.....	500
Number of paid up members.....	100
Average attendance	40
Number of meetings in past year.....	9
Amount of dues, \$2.00.	

The December meeting being the first under the present officers, was given over to the membership committee which gave a complimentary card party at the Medical Arts Building. The next few meetings were taken up with activities for raising funds. Since February, however, we have had Mr. Jewell and Mr. Halbert, Executive Director of the Council of Social Agencies, address us at our regular monthly meetings. Miss Dunham, head nurse of the Jackson County Health Unit, came before one of our board meetings, giving a very comprehensive idea of the work which is being done in the rural schools along health lines. Several trips by our members to the rural schools have been most interesting and enlightening.

At a recent May Day dinner, inaugurating Child Health Week in Kansas City, some thirty reports by social agencies were made from the prenatal clinic to the old age refuge. The brief report of the Auxiliary of the Jackson County Medical Society, and a very wonderful report of Dr. Brenner, of the County Health Unit, were the only ones dealing with the welfare of the child in the rural districts.

About ten days before the recent bond election in Jackson County, lists containing thousands of names were sent me with a request that each family be telephoned to and urged to vote for the County Hospital bonds. I sent out 208 of these lists to our roster, averaging 25 phone calls, but reaching at least 50 to 60 voters. Our efforts may have played a very small part in the successful outcome of that particular bond issue but the response of our members in cooperation was most gratifying.

Formerly, a large annual benefit card party formed our method of raising funds but this winter we took over a theatrical performance. Through much hard but splendid team work the proceeds were much greater than anticipated. We are now spending a great deal of time and thought on our program of educational projects for the coming year.

Johnson County

The Johnson County Auxiliary has had a very successful year, with six meetings during the winter. We have one new member who is enthusiastic about the work we are trying to do. We have more than met our quota for Hygeia, placing 35 copies in city and consolidated schools. Eight consolidated and six Warrensburg schools had the benefit of these subscriptions during all the school year, and we have already made plans for renewals in September. We had several letters during the winter from both teachers and pupils, expressing appreciation of Hygeia and telling how it was used for class and reference work.

The health plays were put on by grade children, who are very enthusiastic about such activities. Johnson County now

has a county nurse who is organizing the rural school work for next year. She is giving a series of talks on home nursing and first aid for home makers clubs. A survey has been conducted recently for Six Point children and a County Health Day was held for Warrensburg and all rural school children who could qualify as Six Point. The program consisted of health songs and plays and folk dances, with acrobatic stunts. Following this, the children were given ice-cream cones and then they were all taken to the matinee. The Six Point buttons made a great hit with all of the children and recently our city school nurse wrote a short play called "Button, Button, Who Got the Button?" which was put on by the third and fourth grades of one school.

The only social feature of the year was a dinner last fall for the doctors and their wives at which Dr. Jabez Jackson, of Kansas City, was a speaker. One means of making money for the year was by a benefit bridge given at the home of Mrs. T. J. Draper, Warrensburg. We are closing our year's work with \$66.50 in the treasury.

President, Mrs. Harry Field Parker, Warrensburg.	
Number of years organized.....	4
Number of eligible members.....	12
Number of paid up members.....	8
Average attendance	6
Number of meetings the past year.....	5
Methods of raising funds, subscription bridge parties.	
Amount of dues, \$1.00.	

Lafayette County

President, Mrs. J. De Voine Guyot, Higginsville.	
Number of years organized.....	3
Number of eligible members.....	29
Number of paid up members.....	29
Average attendance	7
Number of meetings the past year.....	11

All the programs in Hygeia assisted in the survey of crippled children, working with Parent-Teachers Association in the summer Round-Up. We have an annual basket dinner for the County Medical Society and Auxiliary. We also distributed literature for the National Tuberculosis Society.

Methods of raising funds, only payment of dues.
Amount of dues, \$1.00.

Nodaway County

President, Mrs. H. S. Maxwell, Hopkins.	
Organized, May 11, 1928.	
Number of paid up members, 6.	
Amount of dues, \$3.50.	

Randolph-Monroe Counties

President, Mrs. Thomas S. Fleming, Moberly.	
Organized five months.	
Number of eligible members.....	30
Number of paid up members.....	12
Average attendance	11
Number of meetings.....	5

The Auxiliary has had a literary program each meeting and has a program outlined for a year's work.

The Auxiliary sponsored and arranged a sale put on by the Missouri Commission for the Blind lasting three days and making a hundred dollars for the Commission, which it considered a real accomplishment.

During the Hygeia campaign in May we sent in six paid subscriptions and have six more to be sent.

Amount of dues, \$2.00.
We are planning an open session May 12.

Scotland County

President, Mrs. P. M. Baker, Memphis.	
Number of years organized.....	5
Number of eligible members.....	3
Number of paid up members.....	3
Hold no regular meetings.	

There are so few of us we do not meet except over the 'phone. Just pay our dues is about all we can do. Mrs. E. E. Parrish, Memphis, is our delegate to the Auxiliary.
Amount of dues, \$1.50.

Saline County

President, Mrs. F. A. Howard, Slater.	
Number of years organized (one as Hospital Unit).....	4
Number of eligible members.....	27
Number of paid up members.....	22
Average attendance	7
Number of meetings past year.....	11
Hygeia subscriptions	18

Prizes were awarded by the Auxiliary to Girl Scouts for best original health posters. Talks were made by members in town and rural schools on Six Point child and on disease prevention. Auxiliary assisted in observance of Hospital Day.

Social activities: An annual picnic was given to the

County Medical Society, and proved a most enjoyable affair. A banquet was given to Dr. F. A. Howard, my husband, in honor of his fifty years of medical practice. Amount of dues, \$1.50.

St. Louis City

I cannot confine the activities of the St. Louis Auxiliary to the space provided on report blanks. I shall try not to take more than my allotted time.

We have 385 names on the roster with 271 paid up members. Owing to excellent work of Mrs. Phillip Schuck, Chairman of Membership Committee, 70 new members were enrolled.

In addition to our monthly board meetings, we have had three meetings for the entire membership, two of an educational nature in the form of program teas at which we had outstanding speakers on health and welfare measures and educational films. The other, an open meeting, was a bridge luncheon at which our members were privileged to entertain their friends from the laity.

Dinners: Dr. Neilson's dinner, Dr. Vosburg's party. Please do not think we are stressing the social side to the point of frivolity. We do not intend to do this, but we do think that a spirit of friendliness and cooperation is a fine foundation upon which to build for more serious purposes. In fact, much has been done this year in an educational and philanthropic way. Our educational and Hygeia clinics have done excellent work. We have cooperated actively with other health and philanthropic agencies.

Community Fund, Tuberculosis Society, Child Health Day luncheon. We have bought and paid for approximately \$500 worth of equipment for the Medical Society building, consisting of tables, linen, silver, dishes and cooking utensils for serving 200. Considering the fact that we are an Auxiliary organization to a very strong medical society, and that in our field there are numerous very active and strong health agencies, we have not thus far felt the call to take the initiative in health campaigns. We feel that we are just becoming firmly rooted and that a great, strong fruit-bearing organization will be the evidence of our work. We are really proud of our service to the state, and that is that St. Louis Auxiliary is providing Mrs. Bartlett, the new President, whose enthusiasm and wise counsel has meant so much to St. Louis Auxiliary, and in whose ability to state leadership we home women have such absolute confidence.

MRS. HUDSON TALBOT, President.

Notes

The following request has come from the Missouri Tuberculosis Association through Mr. J. W. Becker, Executive Secretary: "During the past two years the Missouri Tuberculosis Association has enjoyed the hearty cooperation of the Women's Auxiliary of the Missouri State Medical Association in its work throughout the state. I am sure this relationship has been mutually helpful and it is our desire to have it continued in the years to come. The Tuberculosis Association is preparing to hold four Regional Health Conferences at the State Teachers Colleges on the following dates: Kirksville, September 24, 25; Maryville, September 26, 27; Cape Girardeau, October 1, 2; Warrensburg, October 4, 5."

Under the division of health education, Mr. Becker requests that a speaker from the Women's Auxiliary present the program of the Auxiliary at each of these conferences. The request will be complied with.

The following Auxiliaries, with the addition of three not listed, have sent in their roster for the Year-Book: Bates, Boone, Cass, Gentry, Greene, Jackson, Jasper, Lafayette, Randolph, Saline, St. Louis. As the Year-Book is to go to press the middle of October, 1928, each county president is urged to confer with her secretary and see that the complete roster is sent to Mrs. Harry F. Parker, Warrensburg, Chairman, or to the State President, Mrs. Willard Bartlett, St. Louis. It is hoped that every county Auxiliary will secure at least one advertisement for the Year-Book.

Books for Leisure Moments

Human Motivation by the (D. Van Nostrand Company, New York) Dr. Leonard T. Troland, Assistant Professor of Psychology, Harvard University, is quite voluminous, containing some five hundred pages, with a bibliography, glossary and index, and should be a most valuable addition to the library of every student of the problems of human nature, particularly those involved in the age-old discussion of human will and its relation to personality and conduct.

In his preface the author states succinctly the purpose of the volume. He says: "The present book is intended to be a systematic treatment of the facts and problems of human motivation. It attempts to answer certain questions which are of the utmost practical importance in human life, but which have not been adequately treated in available psychological texts. Why do people behave and feel as they do? What are the foundations of impulse, desire, emotion, purpose and habit? How can these processes be controlled?" Dr. Troland then states that, though aware of the fact that these problems have been treated in a fragmentary way, it is his purpose to present all pertinent facts and theories pertaining to human motivation and to correlate them in a systematic manner.

Among the problems discussed in the opening chapters are: "(1) our inborn tendencies to action, (2) the means by which we learn, (3) the basis of 'pleasure and pain' and the part which they play in learning, (4) the foundations of 'happiness' in general, (5) the nature and operation of 'instincts,' such as that of sex, (6) the physiological meaning of the Freudian 'complex,' (7) the nature and foundations of emotional experience, (8) the explanation of typical modern interests: automobiles, radio and the like, (9) suggestions towards a scientific treatment of the problems of ethics." These are problems of everyday life and of vital interest, as the author states, to every conscious human being.

The author, in introducing his book, reviews the "classical doctrines": such as, for instance, the animistic and religious theories of behaviorism, the early Greek views, the Christian ideas, the mechanistic theories of Descartes, the British intuitionists and their views, the utilitarian theories, closing with present-day tendencies and views. From this resume of ancient and semi-modern thought he passes on to a discussion of psychoanalysis in which he analyzes the views of Freud and McDougall. He then turns his attention to the relation of the physiological aspect of the problem to the

psychological, devoting some ten chapters to the treatment of "motivation in animals," "neuromuscular response," "reflex response," "nature of instincts," "the mechanism of learning," "nociception, beneception and retroflex action," "secondary retroflex action," and the like.

Subsequent chapters are devoted to a study of "complexes," their various natures and types, and to motives which affect the interests of everyday human life and experience. A chapter is devoted to the "ego complex," another to "the erotic retroflex," and so on. Under the last named subheading a few pages are devoted to the problems of sexual motivation and their influence upon character and life.

Quite interesting, indeed, are the discussions of "belief," "moral suasion," "motives in war," "worry and sorrow," "motives in business," "motives in politics and religion," motives behind scientific effort, "motives underlying esthetic enjoyment," "basis of musical enjoyment," and like matters of everyday interest.

Chapter XXVII is a brief discussion of "personality, character and temperament." Herein the author states that the principles laid down in his book furnish "a basis for understanding the differences, which are observable, in the human and other species, between the modes of response of different individuals to the same stimuli." . . . "Such differences can be attributed," he asserts, "to the resultant action of two general forces: heredity and environment . . . There is no such thing as freedom of will, in the sense that volitional processes are ever undetermined." Though this last statement is made somewhat dogmatically, the author frankly admits that the "proposition has not been proved empirically with complete precision, and probably it never will be; but it is the only basis upon which we can hope to develop a scientific understanding of response and the experiences which accompany the latter."

The remainder of the volume is devoted to a study of ethics, or "the theory of correct conduct." Having given detailed consideration to the problem of *why* a man acts as he does, he concludes by giving brief attention to the problem of whether or not his behavior is "right." It is the author's view that the problem of ethics is the "most important one with which the human mind is faced." In fact, he says, it is the *only* important problem. Here he expresses the conviction that the reason why there is no analytical system of ethics which bears the stamp of approval of any great majority of superior intellects is that in the field of ethical

inquiry scientific methods have not been utilized. It is his belief that ethics should be divorced from philosophy and treated in the light of scientific investigation.

All in all the volume is a veritable encyclopedia of information on the subject which is treated and on the relation of all kindred subjects thereto. The book is well written, in an interesting yet somewhat technical style which makes it valuable to both the scholar and the ordinary reader.

L. C.

BOOK REVIEWS

"Criteria for the Diagnosis and Classification of Heart Disease," announced for early publication, will present in textbook form, and for the first time, a uniform nomenclature and diagnostic criteria of heart disease. The volume, from the press of Paul B. Hoeber, Inc., 76 Fifth Avenue, New York City, embodies in compact but comprehensive form the results of long study by a special committee of the Heart Committee of the New York Tuberculosis and Health Association.

The book, said Harry L. Hopkins, Director of the Association, is designed and arranged to fill a need long recognized by medical schools, hospitals, health boards, clinics, medical specialists, and all organizations dealing with cardiac disease. The special committee which formulated the material in its final form was composed of Harold E. B. Pardee, M.D., Joseph H. Bainton, M.D., Robert L. Levy, M.D., and William C. Munly, M.D., M.C., U.S.A.

The nomenclature was worked out by the American Heart Association for distribution throughout the country.

The criteria are intended to furnish a common ground in the classification and diagnosis of heart disease—something which heretofore has been lacking; to facilitate the making of records which will aid the clinician in making more accurate diagnoses, and make such records accessible and valuable to other clinicians by establishing a "common language" of classification and nomenclature.

The introduction, by John Wyckoff, M.D., chairman of the Heart Committee, says in part:

"Many different individuals using a nomenclature in different localities must have the same idea as to what a given label indicates if a uniform nomenclature is to achieve its purpose. This is all the more essential if statistical studies are to be made. The Heart Committee of the New York Tuberculosis and Health Association is particularly concerned with such studies. It becomes obvious that after the completion of the nomenclature the next need was the establishment of definite criteria for diagnosis. To meet this need the Heart Committee appointed a Committee to prepare criteria for the diagnosis of heart disease. This book, the result of their careful consideration over a period of nearly two years, has been approved and adopted by the Heart Committee."

MINERAL WATERS OF THE UNITED STATES AND AMERICAN SPAS. By William Edward Fitch, M.D., Member of the International Society of Medical Hydrology; The American Medical Association, etc. Illustrated. Lea & Febiger. Philadelphia and New York. 1927. Price \$8.50.

This large book of 799 pages contains a complete

account of American mineral springs and health resorts. The first part discusses in great detail the general principles of mineral water therapy and gives an analysis of such waters in general. Dr. Fitch is by no means a therapeutic nihilist. His scorn is reserved for those who deny the efficacy of medical springs. Part II discusses crunotherapy, and if you do not know what that is,—it is the therapeutic application of mineral waters. Part III from the pen of Dr. Guy Hinsdale is a treatise on hydrotherapy and is an excellent short resume of the subject. The largest section of the book discusses all the resorts of the United States from Alabama White Sulphur Springs to Yellowstone National Park, Wyoming. Dr. Fitch, in general, suffers from the usual malady incident to students of mineral springs—he believes everything favorable that he hears, and he never stops to gather any evidence. Mineral spring doctors remind one of the famous gentleman, immortalized by George Ade, "who fell on his head when Very Small, and believes everything He Sees in the Sunday Papers." L. C.

CLINICAL ASPECTS OF THE ELECTROCARDIOGRAM. A Manual for Physicians and Students. By Harold E. B. Pardee, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School, etc. With sixty illustrations. Second edition revised. New York: Paul B. Hoeber, Inc. 1928. Price \$5.50.

This is an excellent book for any one interested in electrocardiography. It should be of great help to undergraduate medical students. Over fifty pages, nearly one-fourth of the book, are devoted to a discussion of the theory of the electrocardiogram and to description and operation.

Not only are the great varieties of abnormal curves illustrated and described, but the normal variations as well.

The author has had an extensive experience in electrocardiography and much of the subject matter is the result of his original investigation.

The reviewer unhesitatingly recommends this little book as one of the best published on this subject. P. T. B.

FEVER, HEAT REGULATION, CLIMATE, AND THE THYROID-ADRENAL APPARATUS. By W. Cramer, Ph.D., D.Sc., M.R.C.S., Imperial Cancer Research Fund, London; Late Lecturer in Chemical Physiology, Edinburgh University. With illustrations. Longmans, Green & Co., 55 Fifth Avenue, New York City. 1928. Price \$6.00.

This is the most important book submitted to your reviewer for the last two or three years. It is so because it deals with a fundamental problem and does it in an objective way.

Koehler, of Detroit, gave a paper before the American Medical Association in Minneapolis this year on the differentiation between hypothyroid and hypoadrenal states. This is probably the prelude to a more general recognition of the fact that a good many of the states that have been called thyroid are due to adrenal difficulties.

Dr. Cramer's book attempts to show the relation between the thyroid and the adrenal glands and to show primarily that they have to do with the heat regulation of the body.

The truth or falsity of the thesis of the book probably hangs on the theory that the liver is an internal organ whose chief function is the secretion of glycogen. In other words, he does not look upon the liver as a storehouse for sugar, but

as an organ which secretes blood sugar. Dr. Cramer's theory would explain the action of insulin in that it inhibits the process of the formation of glycogen by the liver. This makes a better explanation than any that has been brought up.

Dr. Cramer gives an interesting chapter on climate and temperature.

In general, it is a book of extreme value to any physician who has tried to think out basic problems for himself, and does not simply follow the herd in the acceptance of the dicta of others.

G. H. H.

NEW AND NONOFFICIAL REMEDIES, 1928, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1928. Cloth. Price, postpaid, \$1.50. Pp. 489 XLIX. Chicago. American Medical Association.

This book is the work of a distinguished organization, the Council on Pharmacy and Chemistry of the American Medical Association, which some twenty years ago was founded to clean out the Augean stables of proprietary medicines. The Council's plan was and has been the publication annually of a book containing descriptions of those unofficial preparations which after careful investigation have been found worthy of recognition and consideration by the medical profession. Such has been the devotion of the Council members, who serve without remuneration, and such the recognition achieved by their work that today the book describes all the new proprietary products which have a scientific base and which give promise of therapeutic usefulness. The physician who best safeguards his own interests as well as those of his patient will give no consideration to any proprietary medicinal agent which is not listed in *New and Nonofficial Remedies*.

The book is conveniently arranged for reference; each preparation is classified, and each classification is preceded by an authoritative and up-to-date discussion of the composition, actions, uses, and dosage of the medicament involved. Annually the book is carefully scrutinized and revised to ensure its being in the forefront of medical progress. Products that have been admitted are reexamined at stated intervals to determine if they are keeping their promise of therapeutic usefulness; and new products are admitted as they are found acceptable.

Among the more important revisions this year are: the rewriting or recasting of the chapters on Medicinal Foods, Insulin, Arsenic Compounds, and Iron and Iron Compounds; revision of the chapters on Ovary and Parathyroid to make them conform to the results of recent research; and revision of the names and standards of the acriflavine dyes. A noteworthy omission is that of all parathyroid gland preparations designed for oral administration, their lack of efficacy by this route having been conclusively demonstrated.

The following are some of the products which have been recognized during the past year and which are now included in the book: Neonol, a new barbitol compound; Mesuroil, a bismuth preparation for use in the treatment of syphilis; Bromural, once omitted from the book, but now reinstated as a result of the manufacturer's limitation of therapeutic claims; a number of standardized cod liver oils; Ephedrine, an alkaloid with epinephrine-like properties, and its hydrochloride and sulphate salts; Amiodoxyl benzoate, the ammonium salt of orthoiodoxybenzoic acid, proposed for the treatment of arthritis; Crotalus Antitoxin, an antivenom serum; several brands of erysipelas streptococcus

antitoxin; and Anaerobic Antitoxin, and antitoxic serum for use against gas gangrene.

On account of the careful revisions and the current additions, New and Nonofficial Remedies is essentially a new book each year, indispensable to the physician who would keep up with the march of therapeutic progress.

THE NEW YORK ACADEMY OF MEDICINE. Lectures on Medicine and Surgery. First Series, 1927. With thirty-nine illustrations. New York: Paul B. Hoeber, Inc. 1928. Price \$5.00.

The subject matter in these lectures is not presented as in the ordinary textbook. It is embodied in a series of papers which were originally read before the New York Academy of Medicine, 1926-1927.

These papers present a very complete exposition of the subject under consideration and the reader will have no difficulty in appreciating the essayist's emphasis of the more important paragraphs in his discourse.

There are fifteen papers, some of them splendidly illustrated, collected in this volume. The subjects comprise internal medicine, surgery, bacteriology, obstetrics, otology, ophthalmology, pediatrics, psychiatry.

The names of most of the contributors are well known to physicians who read their medical journals and attend their medical association meetings.

There are articles on (1) The Treatment of Cardiovascular Syphilis, by Harlow Brooks; (2) Intestinal Obstruction, by John F. Erdmann; (3) Surgical Aspects of Medical Conditions, by John E. Jennings; (4) Clinical Aspects of Common Otological Infections, by Samuel J. Kopetzky; (5) General Infections, by Emanuel Libman; (6) The Cutaneous Manifestations of Syphilis, by George M. MacKee; (7) Climate in Tuberculosis, by James A. Miller; (8) Useful Drugs in Clinical Practice, by Lewis K. Neff; (9) Obstetrical Problems in General Practice, by John Osborn Polak; (10) Surgical Aspects of Diseases of the Thyroid, by Eugene H. Pool; (11) The Treatment of Pneumonia, by David Riesman; (12) Pathological Causes of Human Misconduct, by Max G. Schlapp; (13) Remarks on Eye Conditions, by John M. Wheeler; (14) Problems of the Child's First Year, by Herbert B. Wilcox; (15) Contagious Diseases, by Shirley W. Wynne.

All the articles are presented in a classic style and deal with their respective subjects in a scientific manner. Even the "baked" specialist will find it wholesome and refreshing reading and incidentally may garner a bit of additional knowledge.

It is very commendable that such instructive addresses are preserved in a bound volume. For a long time to come they will serve as "good stuff" and will be appreciated by many.

There is nothing so satisfying to a busy physician who desires to enlighten himself on a certain subject than to be able to find what he is looking for without loss of time and have the assurance that the article comes from the pen of a physician of recognized ability.

F. R.

A MANUAL IN PRELIMINARY DIETETICS. By Maude A. Perry, B.Sc., Director of Dietetics, The Montreal General Hospital, Montreal, Canada. St. Louis. The C. V. Mosby Company. 1926. Price \$1.25.

This small handbook is unusually compact in the discussion of foods, their principles and preparation. Some few formulae and menus complete the volumes.

F. O. S.

KEK'S MANUAL OF FEVERS. Revised by Claude Rundle, O.B.E., M.D. (Lond.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H., Medical Superintendent, City Hospital and Sanatorium, Fazakerly, Liverpool, Lecturer on Infectious Diseases to the University of Liverpool. Third Edition. London: Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1927. Price \$3.75.

The most favorable feature of this book is the lucid manner in which it is written.

A. S. W.

GETTING WELL AND STAYING WELL. By John Potts, M.D., Fort Worth, Texas. Introduction by J. B. McKnight, M.D., Superintendent and Medical Director, Texas State Tuberculosis Sanatorium. St. Louis: C. V. Mosby Company. 1927. Price \$2.00.

This volume is an excellent monograph on the diagnosis and treatment of pulmonary tuberculosis written by one well versed in his subject. Primarily intended for the tuberculosis patient and the public health nurse it furnishes a great wealth of experience, practical knowledge and advice for the general practitioner. Much can be learned from a perusal of the chapters on Diagnosis, The Daily Routine, and Sanitation, even by an expert in this disease. This is a book that should find its place in the library of every physician.

A. C. H.

TREATMENT OF DISEASE IN INFANTS AND CHILDREN. By Hans Kleinschmidt, M.D., Professor of Pediatrics, University of Hamburg. Authorized Translation of the Fifth German Edition with Additions by Harry M. Greenwald, M.D., Attending Pediatrician to the United Israel Zion Hospital, etc. Philadelphia: P. Blakiston's Son & Co. Price \$5.00.

This translation of Kleinschmidt's fifth German edition has just appeared (1928) and consists of 360 pages without illustrations. It deals entirely with treatment, as is common in Germany. There are also American notes by the translator upon therapeutic measures which have been recommended in this country. Many of the ingredients of suggested prescriptions are unfamiliar to American physicians. The physician will have to see the book before he can determine whether it is suited to his needs. It will probably appeal more to the general practitioner than to the pediatrician.

F. C. N.

PHYSICIANS OF THE MAYO CLINIC AND MAYO FOUNDATION. A series of 635 biographical sketches with 611 portraits and including complete and accurate data concerning the professional life of each physician prior to January 1, 1926. Octavo volume of 578 pages. Philadelphia and London: W. B. Saunders Company. 1927. Cloth, \$7.00.

To those who are interested in the Mayo Clinic and Mayo Foundation (and who is not?), this book comes as a guide more welcome than a Baedeker—which deals only with cities, towns, and countries; for this work tells us of the activities of individuals. It tells us of the founders of this Foundation; it gives a brief, all too brief, biography of the father and the sons Mayo; it records the life activities of these men and of those men and women who have come from the ends of the civilized world to sit at the feet of the masters—just as in ancient days students traveled far to visit Epidauros, Alexandria, Salamanca, Cordova, Salerno—to acquire medical knowledge. And just as in later years students flocked to Pavia, Padua, Venice, Florence, Paris, and Leyden to sit at the feet of the masters.

The volume is well illustrated and printed; its indices are above reproach.

J. M. B.

NERVE TRACTS OF THE BRAIN AND CORD. Anatomy: Physiology: Applied Neurology. By William Keiller, F.R.C.S., Ed., Professor of Anatomy and Applied Anatomy, University of Texas. New York: The Macmillan Company. 1927. Price \$8.00.

Approximately the first half of the book is devoted to a very adequate description of the microscopic anatomy and physiology of the nerve tracts as found in the human brain and spinal cord. The remainder is given over to the practical or applied side of neuro-anatomy. The author takes up the commoner brain and cord lesions, cites actual cases and provides a supplement in which the common lesions are classified on an anatomical basis. It is here that we find the most outstanding contribution in the book.

The work is profusely illustrated by means of simple line drawings, photographs and sketches. At times they seem crowded on the page but it is seldom that they fail to bring out the desired point.

H. H. C.

ILLUSTRATED OPERATIVE SURGERY. For Students and Practitioners. By George Schwartz, M.D., Associate Surgeon, St. Mark's Hospital, etc. First edition. New York, N. Y.: Dartmouth Press, Inc., Publishers.

A first edition surgical volume composed entirely of illustrations, somewhat limited in scope in that only the neck, chest, and abdomen are considered. The volume considers only topographical anatomy and surgical technic. The author has taken all of the standard operations and has shown in graphic form, step by step, the technic from the primary incision to closure of the skin. Brief but adequate explanatory footnotes accompany each illustration.

There is no attempt at original technic; the author has selected what he considers the best operative procedures, giving credit for individual methods where credit is due.

For the purpose of clearness some of the operations are summarized on one page in addition to the step by step illustrations. Many of the illustrations are diagrammatic and semidiagrammatic which also add to clearness. Especially good is that part of the book devoted to gastro-intestinal surgery but it is to be regretted that the author has eliminated altogether surgery of the bones and joints.

The book fills a long felt need and should be in the library of everyone engaged in the practice of surgery.

L. H. S.

MATTER, ELECTRICITY, ENERGY. The Principles of Modern Atomistics and Experimental Results of Atomic Investigation. By Walter Gerlach, Professor, University of Tübingen. Translated from the second German edition. By Francis J. Fuchs, Ph.D., St. John's College, Brooklyn, N. Y. New York: D. Van Nostrand Company. 8 Warren Street. 1928. Price \$6.00.

Recent developments in the field of atomistics are presented with a minimum of technical terminology and mathematical formulation so as to be intelligible to the general scientific reader. The atom, atomic transformation, the electron, the magneton, the quantum theory, spectra, Bohr's theory, photochemistry, are some of the subjects treated. Important experiments are described in some detail with diagrams of the apparatus used. Practical applications to many problems in related fields,—such as chemistry, mineralogy and astronomy, are of particular interest.

H. D. H.

A SOUND ECONOMIC BASIS FOR SCHOOLS OF NURSING. By Mary Adelaide Nutting, R.N., M.A., G.P. Putnam's Sons, New York and London, The Knickerbocker Press. 1926. Price \$2.50.

In reviewing this book, one is greatly impressed with the fact that the author knows her subject only too well. The volume comprises a series of papers which present her views on training schools for nurses which were gathered first in a hospital training school and later in the graduate department of a university. There is much repetition and unfortunately in places the text becomes verbose. But to those who have had less experience in the field of education for nurses than Miss Nutting, the volume can well serve as a guide for constructive reorganization of curricula in schools of nursing.

F. O. S.

THE TREATMENT OF CHRONIC DEAFNESS. By The Electrophonoide Method of Zund-Burguet. By George C. Cathcart, M.A., M.D., Consulting Surgeon to The Throat Hospital, Golden Square; late member of The Special Aural Board Ministry of Pensions. Oxford University Press. American Branch, 35 W. 32nd Street, New York City, N. Y. Price \$1.35.

After carefully reading Dr. Cathcart's book one must conclude that the results obtained certainly justify a trial of the treatment where other measures have failed. He does not claim a cure in a single case but that is hardly to be expected. The percentage of great improvement, ranging from fifty-five to eighty-one per cent., in his series of 100 cases, is certainly very encouraging as most of such cases have been considered hopeless. The best one expected was to keep deafness and tinnitus from becoming worse.

E. F. H.

A TEXTBOOK OF MEDICINE. By 130 American Authors. Edited by Russell L. Cecil, M.D., Assistant Professor of Clinical Medicine, Cornell University, Medical School, New York. Octavo of 1500 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1927. Cloth, \$9.00 net.

Sufficient time has elapsed since this book was issued to form an estimate of its usefulness. In general, warm praise is expressed by instructors, and students have found it easy to read. The idea of having individual chapters written by men who are especially interested in the subject matter of their chapter has apparently proven a convincing argument in favor of using the book.

Progress in medicine continues at such a pace that any bound volume finds itself in need of revision frequently. It is almost beyond the capacity of a single author to revise a textbook in a field as broad as internal medicine. Even with the freshness of the information in this textbook, on account of the scheme of compilation employed, there is a need for emendation if not revision in some chapters. This, however, is not as important as it seems. A bound volume is merely the companion of a medical student. It makes him aware of certain disease complexes and classifications. It should invite his interest in following the changes recorded in current literature. It need not be considered a companion of the intern or the reference book of a practitioner.

In its function of presenting to the medical student well written descriptions of diseases from the pens of interested investigators this textbook is excellent.

R. A. K.

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ORIGINAL ARTICLES

UTERINE HEMORRHAGE AND ITS TREATMENT*1

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BALTIMORE

In 1922¹ I gave a bird's-eye view of the various conditions that produce uterine hemorrhage.

In the present paper I shall endeavor to bring the subject up to date, and also indicate the methods of treatment that have been found most satisfactory in the handling of the individual lesions.

The conditions causing uterine hemorrhage fall into two main groups: (1) those dependent on recent pregnancy, and (2) those independent of recent pregnancy. If we bear in mind these two main groups, a study of uterine hemorrhage becomes much easier.

UTERINE HEMORRHAGE DEPENDENT ON RECENT PREGNANCY

Uterine hemorrhage dependent on recent pregnancy occurs with: (1) premature separation of the placenta; (2) retained membranes; (3) hydatidiform mole; (4) chorio-epithelioma; (5) tubal pregnancy, and (6) pregnancy in one horn of a bicornate uterus.

Premature Separation of the Placenta.—In such a case, the physician is aware that pregnancy exists, and he understands the cause of the bleeding. His chief aim is to keep the patient quiet and prevent a miscarriage, if feasible. The possibility of placenta praevia is always in mind, and he will naturally be on the lookout for this condition.

Retained Membranes.—Here also the patient usually gives a history of pregnancy. Every

physician, however, encounters patients who stoutly deny the possibility of pregnancy and do their best to mislead the physician in order that he may innocently dilate and curet, and bring away the fetus and membranes. In the typical case in which no criminal operation has been attempted and in which the patient does her best to cooperate with the physician, there is a history of missing one or more menstrual periods, then bleeding has commenced, then a fetus has escaped with some water, and the after-birth has or has not been expelled.

In such cases dilatation of the cervix and gentle curetting will bring away any remaining portion of the after-birth, and the diagnosis will be definitely settled by the finding of villi or shadows of villi in the tissue removed.

In taking the history one must ascertain, if possible, whether or not the fetus has been actually seen. If it has, well and good; if not, tubal pregnancy must be borne in mind, because more than once the expulsion of a decidua cast from the uterus has been taken for a miscarriage and the existing tubal pregnancy completely overlooked. This phase will be considered more in detail under tubal pregnancy.

Hydatidiform Mole.—Now and again a pregnancy will apparently proceed normally for two or three months, and then there may be a little brownish discharge, or the patient may not feel particularly well. The case is watched for a month or two, when it is realized that something is radically wrong. The physician does not want to terminate a normal pregnancy, and yet he cannot afford to neglect his patient. Finally, it becomes clear that the uterus must be emptied and he dilates the cervix and at once encounters quantities of small cysts that vary in size, and remind one of the variation in size of the individual grapes seen when a grape-vine has worn out or gone to seed.

Now and then, as the uterus containing a hydatid mole increases in size, a multilocular cystic tumor develops on each side of the uterus. A knowledge of this fact materially aids one in making the diagnosis. These

* Address delivered at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

N. B. This article also appears in the October, 1928, issue of the Canadian Medical Association Journal.

1. Cullen, Thomas S.: Uterine Hemorrhage, J. A. M. A. 78:1592 (May 27) 1922.

multilocular cysts are filled with relatively clear fluid. They are lined with several layers of lutein cells, and scattered throughout the stroma of the enlarged ovary are rows or clumps of these cells. I have never seen these multilocular lutein cysts except in association with a hydatid mole or with chorio-epithelioma. After removal of the mole, the cysts tend to disappear and the ovary may again assume its normal size.

Dr. George Briel, Resident Surgeon at the Church Home and Infirmary, recently had a hydatid of the uterus with multilocular ovarian cysts on each side.

The patient, V. S., aged 20, was admitted to the Church Home and Infirmary on December 6, 1927, with the history of having missed her periods since September 7. Five weeks before admission, she began to have vaginal bleeding which never increased in amount. She later had nausea, swelling of the ankles, puffiness of the eyes, a lack of appetite, abdominal distention and frequent urination.

Examination revealed a pregnancy of about four months, with the patient showing signs of early toxemia. She had a blood pressure of 176/80.

After watching the patient for several days, it was felt that a therapeutic abortion was indicated. This was done on December 10. Curettage brought away a large quantity of hydatidiform tissue. Most of the mole was removed, but as the patient's condition was precarious complete removal was not attempted.

The patient had a stormy convalescence with high temperature. When the packs were removed the remaining portion of the mole and placenta came away.

On December 24, the cervix was found in its normal position, the uterus was large and boggy, and on each side of the uterus was a mass about the size of a grape-fruit.

She was seen two weeks later, and at this time there was no trace of either cyst. It is remarkable that two ovarian cysts as large as grape-fruit should shrink so markedly in the course of fourteen days and leave normal ovaries behind.

Chorio-Epithelioma.—Occasionally, after a hydatid mole has been removed, the patient continues to bleed. Examination discloses that the uterus is enlarged, and now and then a metastasis may be noted in the vagina or elsewhere. When the process is advanced hemoptysis may be noted, due to metastases in the lung. After a hydatid mole has been removed one is always fearful that chorio-epithelioma may develop or may have existed prior to removal of the mole. In some cases of chorio-epithelioma no history of a previous mole can be elicited.

The histologic picture of hydatid mole and chorio-epithelioma are very much alike. The large cystic villi, the proliferation of Langhans' layer and the marked outgrowth of the syncytium with vacuolization, are present in both cases. In order to differentiate between simple hydatid mole and chorio-epithelioma, it is necessary to examine a section from the wall of the uterus, and of course this is possible only after the organ has been removed. A diagnosis of chorio-epithelioma should never be made from scrapings. The finding of coagulation necrosis of the tissue lining the cavity of the uterus, when the diagnosis lies between chorio-epithelioma and hydatidiform mole, is strong presumptive evidence of malignancy, but even then it is unwise to make a flat-footed diagnosis. One must either go ahead and remove the uterus in suspicious cases or watch carefully for developments.

We cannot be too careful in the examination of tissue removed shortly after pregnancy. The uterine musculature just beneath the placenta in the early months of pregnancy often contains large, suspicious cells which seem to represent the normal reaction of the stroma and muscle cells to the stimulus of pregnancy. Were they to be encountered in the uterine wall in the absence of pregnancy, sarcoma would be suspected; but, occurring when early pregnancy has existed, they are normal. Bilateral, multilocular, corpora lutea cysts are frequently associated with chorio-epithelioma.

Tubal Pregnancy.—Thirty years ago few physicians knew anything about tubal pregnancy. Today nearly all cases can be recognized when rupture occurs, and many of them are diagnosed before rupture takes place, at a time when operation can be performed with relative ease and little danger to the patient. The previous history in the majority of these cases is well known: probably one pregnancy several years before and no conception since then, a period a few days or a month late, then a little bleeding, more or less but continuous, a little pain to the right or left of the uterus, and in some cases a premonition of impending danger. On pelvic examination, a small mass may be felt to one side of the uterus, and when a clot has formed in the pelvis this may be felt breaking up under the vaginal finger as rather firm jelly would do.

Our duty is to watch for new signs that will enable us to recognize tubal pregnancy at an early stage. In 1905, while examining a colored woman under anesthesia just prior to operating, I found a small multinodular myomatous uterus, and a nodule to one side of the uterus that gave a totally different sensation to the examining finger. On gentle pres-

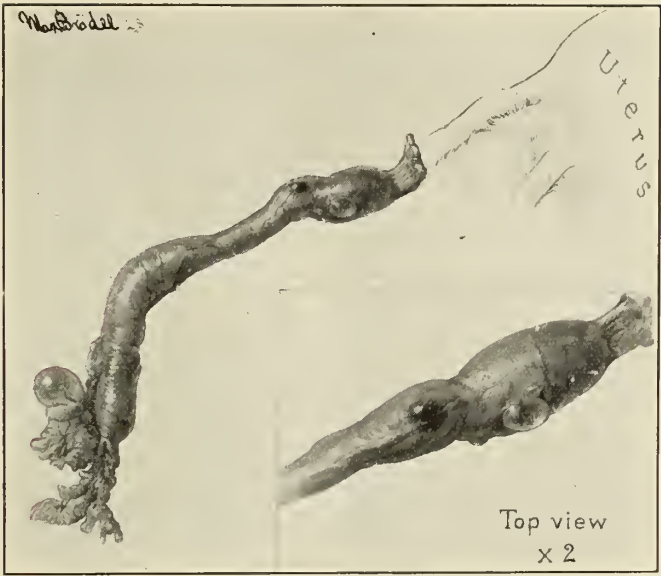


Fig. 1. A Very Early Tubal Pregnancy.

Mrs. H. L. C., Church Home and Infirmary, November 12, 1927. Near the middle of the left tube is an area of thickening, oval in shape, and just distal to this is a small dark spot. The fimbriated end of the tube is normal. In the right lower corner is an enlargement of the thickened area in the tube. The small, dark hemorrhagic area comes out clearly, and a small subperitoneal cyst is seen on the surface of the thickened portion of the tube. There are also two smaller subperitoneal cysts.

For the appearance of the implantation of the ovum in the tube, see Fig. 2.

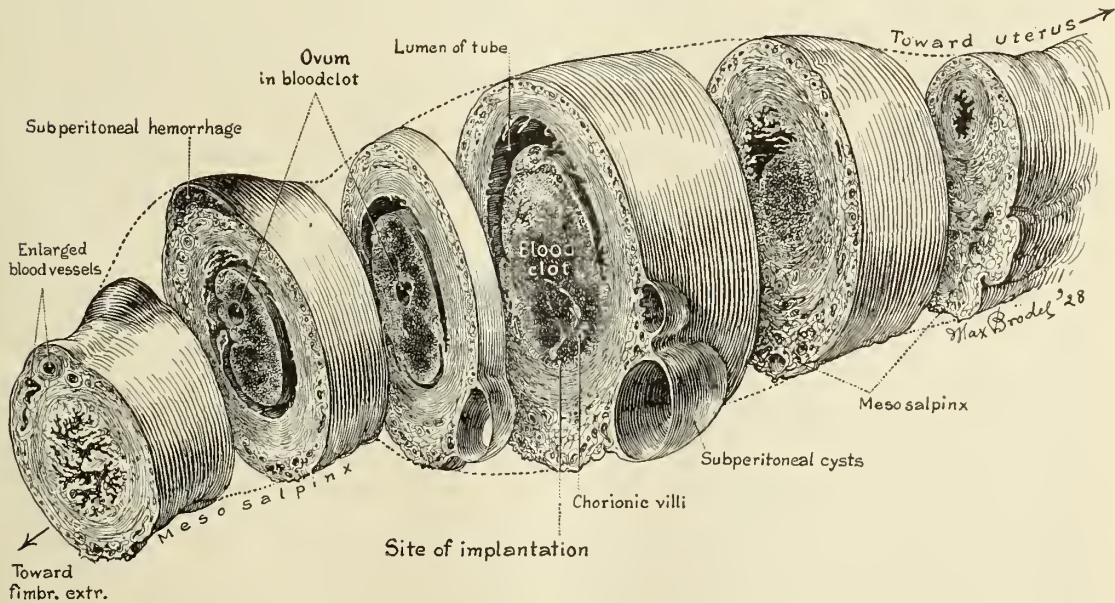


Fig. 2. Early Pregnancy in a Fallopian Tube.

Mrs. H. L. C., Church Home and Infirmary, November 12, 1927. Serial sections of the pregnant tube shown in Fig. 1 were made by Dr. George L. Streeter, Director of the Carnegie Laboratory of Embryology of the Johns Hopkins Medical School, and Max Broedel has made a reconstructed illustration from Dr. Streeter's slides. At the right is a cross-section of the tube near its middle. Then in successive sections come cross-sections of the fetal sac which contain blood clot and placental tissue. The embryo had evidently been absorbed. The small hemorrhagic spot, noted in Fig. 1, was a subperitoneal hemorrhage. The other small cysts were simple subperitoneal cysts. At the left is normal tube again.

sure it had a velvety feel; on deep pressure it was firm. I diagnosed tubal pregnancy without reading the history, and operation disclosed an unruptured tubal pregnancy. The velvety feel² was undoubtedly due to the engorged vessels in the tube wall.

Years ago, I examined scrapings from a uterus in which the surface epithelium was intact, and the glands near the surface were slit-like and in their deeper portions hypertrophied. The stroma of the mucosa just beneath the surface had been converted into typical decidua. I wrote the attending physician that a pregnancy existed somewhere. He removed a large myomatous uterus which filled the abdomen, and in the right tube, which lay up under the liver, was a pregnancy. From the appearance of the uterine mucosa it was certain that an extra-uterine pregnancy existed somewhere.

I saw an instructive case in Washington, D. C. The patient had gone over her period a few weeks and had had some bleeding. She was curetted and microscopical examination revealed the surface epithelium intact, the glands slit-like near the surface, and characteristically hypertrophied in the depth, while the stroma of the mucosa just beneath the surface had been converted into decidua. Although thickening of the tube could not be felt even with the patient under anesthesia, a diagnosis of unruptured tubal pregnancy was made and at operation, next day, a tubal pregnancy, not over 1 cm. in diameter, was found.

On November 11, 1927, I saw a most interesting case.

REPORT OF CASE

Mrs. H. L. C., aged 37, had been married six months. The last period had occurred six weeks before I saw her. It was of three days' duration and excessive, and from that time on there had been slight bleeding every day. On pelvic examination everything appeared normal.

Operation. On November 12, 1927, at the Church Home and Infirmary, we again examined the pelvis and the structures seemed perfectly normal. We curetted and obtained nothing. It was obvious, however, that some pelvic condition was responsible for the bleeding, and as the patient lived at a distance, I felt it wise to make a small abdominal incision.

The right tube and ovary were normal; the uterus was normal. Situated in the left tube, about 4 cm. from the uterus, was a small oval thickening about 8 mm. long and 4 mm. broad. (Fig. 1.) By transmitted light, a little dark object was seen in the center. The outer end of the tube beyond this was normal. We removed the outer half of the tube, leaving about 4 cm. of normal tube on the proximal side. The outer end of this was slit, making a fairly presentable fimbriated end.

Max Broedel at once made a sketch, and Dr. Streeter, the head of the Carnegie Laboratory of

Embryology at Hopkins, took the specimen for examination. A few days later I received the following letter:

"Dear Dr. Cullen:

"Just a note to say that a block has been cut of the tube removed by you last Saturday and we are going to run it through in serial sections with celloidin embedding . . . In cutting out the block it could be seen that the lumen of the tube was everywhere filled with a moderate amount of blood. You will see that we are going at this matter deliberately and are going to find the egg or bust!

"With best regards,

"Yours very truly,
(Signed) George L. Streeter."

In due time Dr. Streeter had the serial sections made. (Fig. 2.) The small dark mass we had noted was blood, and lying up against this small blood-clot were remnants of an exceedingly early pregnancy. This is the earliest case of tubal pregnancy that I have ever seen. In this case thickening of the uterine mucosa had not as yet taken place.

In some cases the thickened uterine mucosa is expelled, and the patient, and even the physician, may conclude that a miscarriage has occurred and that all danger is over, whereas the pregnant tube is liable to rupture at any time.

Everything that escapes from the uterus should be most carefully examined for the fetus. If it be found, tubal pregnancy can in the vast majority of cases be definitely excluded.

In the volumes dedicated to the late Sir William Osler on his seventieth birthday, July 12, 1919, I reported a new sign that may be of value in the diagnosis of some cases of tubal pregnancy, especially when the tubal bleeding has not been severe but practically constant.

NEW SIGN OF TUBAL PREGNANCY

On March 21, 1918, there entered the Church Home and Infirmary a thin, wiry woman who looked to be nearly 60 years of age, but who was actually only 38. She was the mother of seven children. For three weeks she had had pain in the right lower abdomen with intermittent attacks of abdominal distention. One week after the onset of the trouble the umbilical region suddenly became bluish black, although there had been no injury whatever in this region. Pelvic examination was very unsatisfactory on account of the marked abdominal distention. At operation, March 27, the uterus was found slightly enlarged and to the right of it a freely movable mass, about 8 cm. long and 5 cm. broad. The bluish black appearance of the navel unassociated with any history of injury, together with a mass to the right of the uterus, made the diagnosis of extra-uterine pregnancy relatively certain, although the patient had not missed a period, and although there had been no uterine bleeding.

The umbilicus itself was of a greenish hue; above it there was a faint bluish tinge; below it

2. Cullen, Thomas S.: The Velvety Feel of an Unruptured Tubal Pregnancy, *Bull. Johns Hopkins Hosp.* 17:154 (May) 1906.

the bluish appearance was more intense. The bluish discoloration gradually diminished in intensity during the patient's sojourn in the hospital. The gradual changes in color that took place in this region were suggestive of those that occur in a black eye resulting from a blow. At the operation the abdomen was found filled with dark blood, and attached to the fimbriated end of the right tube was an extra-uterine pregnancy, which I was able to remove without sacrificing the tube. The patient made a good recovery.

Since that time several other cases of tubal pregnancy with this umbilical sign have been noted. It is hardly necessary to point out that a blue umbilicus does not always mean a tubal pregnancy; it merely indicates that there has been free blood in the abdomen. As the most frequent cause of free blood in the abdomen in the female is hemorrhage from a tubal pregnancy, this umbilical sign will usually indicate an extra-uterine pregnancy with hemorrhage.

PREGNANCY IN ONE HORN OF A BICORNATE UTERUS³

Early in my practice I saw a young woman who had missed a period and then started to bleed. On examination I found a uterus which seemed to be a little enlarged, and to one side of it was a well defined lump. The patient's father was a physician, and after due consideration we concluded that an exploratory operation would be advisable. I made an incision about an inch long and found a bicornate uterus with pregnancy in the right horn. The patient left the hospital in a week and went on to term.

Pregnancy in one horn of a bicornate uterus is really extra-uterine, when considered from the standpoint of the non-pregnant horn. If uterine bleeding exists when there is a tubal pregnancy, we can expect, in some cases at least, bleeding from the non-pregnant horn of a bicornate uterus when pregnancy exists in the other horn.

UTERINE HEMORRHAGE OCCURRING INDEPENDENTLY OF RECENT PREGNANCY

Uterine hemorrhages occurring independently of recent pregnancy naturally fall into the following groups: (1) hemorrhage due to constitutional conditions; (2) hemorrhage due to benign changes in the mucosa of the cervix and body of the uterus; (3) hemorrhage due to malignant changes in the mucosa of the cervix and body of the uterus; (4) hemorrhage due to the presence of uterine tumors, and (5) hemorrhage due to diseases of the adnexa.

³ Cullen, Thomas S.: Pregnancy in One Horn of a Bicornate Uterus, Giving Symptoms Identical With Those of Tubal Pregnancy, *Bull. Johns Hopkins Hosp.* 17:155 (May) 1906.

Hemorrhages Due to Constitutional Conditions.—In cases of hemophilia there may be a tendency to very profuse periods. In some other diseases there is also a tendency to profuse hemorrhages at the periods. Such bleeding naturally comes under the care of a physician and not the surgeon, since these hemorrhages are incidental to the medical condition with which they are associated. The cause of the hemorrhage is evident, and as a rule the constitutional condition and not the local bleeding receives attention.

Hemorrhages Due to Benign Changes in the Mucous Membrane of Cervix and Body of Uterus.—These include (1) cervical polypi; (2) polypi of the endometrium; (3) hyperplasia of the endometrium; (4) an increased tendency for the mucosa of the cervix and vagina to bleed in elderly persons, and (5) endometritis, with blocking of the cervical canal in women advanced in years.

Cervical Polypi: Simple polypi, no matter where situated, usually conform in histological appearance to the mucosa from which they arise. Cervical polypi consist of cervical mucosa. When the polyp originates far up in the cervical canal, it is composed chiefly of cervical glands and stroma. If it springs from a point near the external os the surface of the polyp on one side may be covered by the squamous epithelium of the part.

Nature tends to rid herself of the polyp, and it is gradually extruded. During the process of extrusion it becomes engorged and there may be hemorrhage into the stroma of its tip. When the polyp is exposed and subjected to trauma its tip often shows an inflammatory reaction.

Cervical polypi often bleed a little. The patient complains of a slight intermenstrual bleeding, and in cases in which the surface of the polyp is inflamed there may be a slight purulent or watery discharge.

Polypi Springing from the Mucosa of Body of Uterus: These consist of uterine mucosa which has been forced into the cavity of the uterus, forming a tongue-like projection. Some of the glands are often dilated and the tip of the polyp may show some hemorrhage. The center of the base of the polyp often contains strands of non-striated muscle which extend into it from the uterine wall.

Polypi in the body of the uterus tend to produce excessive menstrual periods. There may be some slight intermenstrual bleeding as well.

HYPERPLASIA OF THE ENDOMETRIUM

In this condition the mucosa is usually much thicker than normal. The surface may be smooth or show a tendency to be gathered into folds or polypi. The surface epithelium is, as a rule, thicker than normal, and the epithelial

cells tend to be higher and to stain more deeply than usual. Some of the glands are small and round, others are very large. The large and small glands, as has been pointed out by Emil Novak, remind one of the large and small holes in Schweitzer cheese. The large glands may be tortuous or spherical. Their epithelium is higher than usual, closely packed and stains more deeply. Here and there the epithelium of an entire gland may stain lightly, coming out in sharp contrast to the surrounding glands.

The stroma of the mucosa is exceptionally cellular, and not infrequently nuclear figures are found in the stroma between the glands.

In no other condition of the endometrium do we, as a rule, find nuclear figures in the stroma, although they are normally present in the epithelial cells. Occasionally large venous sinuses are found scattered throughout the stroma, sometimes partially or completely filled with organizing blood. Hyperplasia of the endometrium is invariably accompanied by profuse and prolonged menstrual periods. The condition is usually noted during the child-bearing period, but I have observed it in a girl of 16 of so severe a degree that when she entered the hospital the hemoglobin was only 30 per cent. On curettage we removed several tablespoonfuls of mucosa.

After curettage the periods are usually relatively normal for from three to five months, and then curettage again becomes necessary. Sometimes after four or five curettings the patient is permanently relieved of her symptoms.

Hyperplasia is one of the most frequent causes of profuse menstrual periods. There is usually no intermenstrual discharge, and on histological examination of the scrapings there is not the slightest resemblance to cancerous tissue.

Increased Tendency for the Mucosa of the Cervix and Vagina to Bleed in Elderly Women: In some elderly women there is marked atrophy of the vagina, and the retracted cervix merges almost imperceptibly into the vaginal mucosa. In some of these cases, no matter how careful the assistant is in washing up the vagina, there is a considerable amount of hemorrhage, blood oozing from fine points on the vulva, vagina and cervix. Any appreciable contact in such a case will tend to cause slight bleeding.

Mild Endometritis, with Blocking of the Cervical Canal in Women Advanced in Years: When a woman of 60 years or older says that since her menopause ten or more years before she has had no discharge until the last week or two, and that this is blood-tinged and slightly irritating, we at once suspect cancer.

On several occasions I have examined such patients and found the cervix normal in ap-

pearance. On curettage I have been surprised to obtain so little mucosa. This on microscopical examination has shown marked atrophy of the mucous membrane of the body, together with a mild infection of the endometrium. There has been a slight infection, the cervix has become occluded, the secretion has collected, and, finally, the cervix has opened up again.

The occasional occurrence of these cases should not, however, lull us into a false sense of security. Every woman beyond the menopause who has bleeding should be examined, and if the cause does not then become evident the uterus should be curetted and the scrapings examined microscopically.

*Hemorrhage Due to Malignant Changes in the Mucosa of the Cervix and the Body of the Uterus.*⁴—These include (1) squamous-cell carcinoma of the cervix; (2) adenocarcinoma of the cervix; (3) adenocarcinoma of the body of the uterus (squamous-cell carcinoma of the body is rare), and (4) sarcoma of the endometrium.

The vaginal portion of the cervix is covered by squamous epithelium. The cervical canal is lined with the mucosa which produces the mucus plug during pregnancy. The glands of this mucosa are of the racemose variety, and the epithelium lining them is of a very high cylindric type.

The cavity of the uterus is lined with a mucous membrane which usually varies from 2 to 4 mm. in thickness. Its glands are tubular, and between them is a very unusual stroma whose cells, as we have seen, become of the decidual type when pregnancy exists inside or outside the uterus.

From any of these three kinds of mucous membrane cancer may develop. Accordingly, we have three varieties of cancer of the uterus, —squamous-cell carcinoma of the cervix, adenocarcinoma of the cervix, and adenocarcinoma of the body of the uterus.

Squamous-Cell Carcinoma of the Cervix: Advanced carcinoma of the cervix is readily recognized as a large friable growth which too frequently involves the entire cervix and extends to the surrounding vaginal mucosa.

As a result of the campaign of education waged by the American Society for the Control of Cancer and by local medical societies, patients are coming to the physician earlier and earlier, so that cases are seen now in which the physician is by no means sure whether the cervix is cancerous or not. These patients should be sent to the hospital to have a wedge of the suspicious area cut out and examined

4. Cullen, Thomas S.: *Cancer of the Uterus; its Pathology, Symptomatology, Diagnosis, and Treatment; also the Pathology of Diseases of the Endometrium.* New York, D. Appleton & Company, 1900.

microscopically. Several years ago I reported a very early squamous-cell carcinoma of the cervix accidentally discovered when the uterus was curetted for hyperplasia.⁵ The cervical cancer was too recent to give rise to symptoms, but the microscopical picture was well developed and gave some valuable clues as to the very beginning of squamous-cell carcinoma of this region.

Adenocarcinoma of the Cervix: This frequently begins up in the cervical canal; but if the cylindric epithelium extends down beyond the external os, as it sometimes does, then the adenocarcinoma may be seen on vaginal examination. The diagnosis of this variety of gland cancer is sometimes difficult. It is the most malignant of all uterine cancers, and fortunately the least frequent.

Adenocarcinoma of the Body of the Uterus: This can be diagnosed with certainty only from scrapings. As a rule, the diagnosis is easy. When the operator removes a large amount of friable material with the curet he suspects cancer and hastens to make a microscopical examination of the sections. There is as much difference between the appearance of the normal lining of the uterus and cancerous tissue as there is between two different patterns of wall paper. The diagnosis is made from the general pattern of the growth, or from individual cell changes, or from both. Now and again several sections must be examined, and occasionally it may seem best to curet again in a month or two and examine fresh sections. This is, however, rarely necessary.

Sarcoma of the Endometrium: This condition is rare. When sarcoma is found in the uterus it is usually in the musculature or associated with uterine myomas.

When sarcoma develops in the endometrium, it must of necessity arise from the stroma of the mucosa.

Several years ago I saw a patient who had slight uterine bleeding and a small nodule in the breast. The uterus was curetted and while frozen sections were being made the breast nodule, which was benign, was removed.

Microscopical examination of the scrapings revealed a sarcoma. Complete hysterectomy was done at once and on the day after operation the patient was in excellent condition, but on the second day her temperature rose to 104 F; on the third day it was again normal, and on the fourth day it rose to 105 F. Malarial organisms were found in the blood, appropriate treatment was instituted, and a normal re-

covery followed. This case has been reported in full.⁶

Hemorrhage Due to Presence of Uterine Tumors.—Tumors of the uterus are divisible into three main groups: (1) myomas; (2) adenomyomas, and (3) sarcomas.

Uterine Myomas: These are very common and in the beginning are usually interstitial; but as they grow many of them become subperitoneal and are either sessile or pedunculated. Some of them project into the cavity of the uterus. A myoma may reach large proportions without in any way influencing menstruation, but when it encroaches on the uterine cavity the periods are liable to be prolonged. A myoma not over 2 or 3 cm. in diameter, projecting well into the cavity of the uterus, may cause such severe menstrual hemorrhage that the patient is almost exsanguinated.

In some cases the submucous myoma becomes necrotic in its more dependent parts and causes a foul and almost continuous watery discharge from the uterus. On examination, a portion of the growth may be seen extending through the cervix. This tissue often feels soft, but on traction is found to be tough. Cancerous tissue, on the other hand, is friable. When a large submucous myoma has been expelled from the uterus it may completely fill the vagina. In such a case the cervix can be recognized as a smooth ring encircling the pedicle of the tumor.

Adenomyomas of the Uterus: These form an interesting group of tumors. Although in a certain percentage of these cases the uterus is not enlarged, in the majority of them it is at least twice the normal size. The inner muscular layers of the uterus are transformed into a coarse, diffuse, myomatous tissue into which the uterine mucosa flows. The thickening may be limited to the anterior or posterior wall, or form a mantle around the entire uterine cavity. In time, portions of the adenomyoma may be forced to the outer surface, forming subperitoneal adenomyomas, or into the cavity, producing submucous adenomyomas. In many cases there are also a few small, discrete myomas scattered throughout the uterus.

Adenomyomas generally cause a very profuse and prolonged menstruation but no intermenstrual bleeding. At the period there may be a grinding pain in the uterus, due undoubtedly to swelling of the many areas of uterine mucosa in the diffuse growth of the uterine wall. Curettage, as a rule, yields perfectly normal mucosa. When adenomyoma exists, the uterus tends to become adherent to the surrounding structures.

5. Cullen, Thomas S.: Early Squamous-Cell Carcinoma of the Cervix Accidentally Discovered When the Body of the Uterus was Being Curetted for Hemorrhage, Caused by Hyperplasia of the Endometrium and by a Small Submucous Myoma, *Surg. Gynec. Obst.* 33:137 (Aug.) 1921.

6. Brady, Leo: A Sarcoma of the Uterus Arising from the Endometrium, *Bull. Johns Hopkins Hosp.* 29:164 (July) 1918.

Sarcomas: Uterine sarcomas are relatively rare. In from 1 to 2 per cent. they are associated with uterine myomas. Should a sarcoma develop in the endometrium, it can be diagnosed from scrapings; but in the average case it will be diagnosed as a myoma, and its true character detected only when the abdomen is opened, or when the tumor has been cut into. Typical sarcoma on section differs markedly from myoma. It is homogeneous, porklike, not striated, and, as a rule, is easily broken up with the finger, whereas the finger makes no impression whatever on the myoma.

Occasionally, portions of a sarcoma become submucous and undergo necrosis and gradual disintegration. In such cases there is a good deal of foul vaginal discharge. Microscopical examination of pieces of the tissue will give the correct diagnosis, although the differentiation between a degenerating myoma and sarcoma is at times somewhat puzzling.

When considering uterine tumors and their differentiation from cancer we must always remember that the two conditions are occasionally associated in the same uterus. In our series of cases we found squamous-cell carcinoma of the cervix in more than 1 per cent. of myoma cases, and in nearly 2 per cent. adenocarcinoma of the body of the uterus complicated the myomatous condition.⁷

Uterine Hemorrhages Due to Diseases of the Adnexa.—Tubes: One of the cardinal signs in tubal pregnancy is uterine bleeding. In cases of purulent salpingitis also, uterine hemorrhage is a common symptom. Time and again the operator is in doubt as to whether the given case is one of tubal pregnancy or pelvic inflammation. Sometimes he makes a diagnosis of pelvic infection and finds tubal pregnancy, and on the other hand he may diagnose extra-uterine pregnancy only to find that he is dealing with pelvic infection. Fortunately in both instances it is necessary to open the abdomen and the temporary error in diagnosis does not in any way militate against the patient's welfare. If it were essential to make an absolute diagnosis before operation, a curettage would usually reveal decidua when a pregnancy existed, but there would be no sign of decidua in the inflammatory case.

On Jan. 9, 1928, I saw, with my resident, Dr. Robert L. Faulkner, at the Johns Hopkins Hospital, E. T., who had been married ten years and who had had seven pregnancies. When I saw her she had been ill for over two weeks. Her temperature, which had been high, had fallen to 101° F and in the two weeks, as

a result of severe bleeding, her hemoglobin had dropped to 55.

On pelvic examination I could feel a mass back of the uterus. The temperature indicated a pelvic inflammation, but the severe bleeding suggested the possibility of tubal pregnancy. At operation, Dr. Faulkner found a pelvic peritonitis and double pus tubes. Such free hemorrhage with pus tubes is rather unusual. After operation there was no bleeding.

Ovaries: Inflammatory diseases of the ovaries are invariably secondary to and associated with salpingitis; consequently, what has been said about uterine bleeding associated with pus tubes applies to inflammation of the ovary.

Ovarian cysts and ovarian tumors occasionally cause slight uterine bleeding. The presence of the tumor when found to be independent of the uterus usually gives us the clue as to the hemorrhage, and with the removal of the ovarian growth the bleeding ceases. It is always well, however, to examine the uterus carefully if the bleeding has been severe. One of our patients who had been bleeding severely had not only a large ovarian tumor with a twisted pedicle, but also a carcinoma of the body of the uterus. When considering the diagnosis and treatment of any given lesion in the pelvis, it is always essential to remember that any one or more of various conditions may be responsible for the hemorrhage.

A short time ago, when discussing with my house staff the number of cases of uterine hemorrhage occurring in the Gynecological Department of the Johns Hopkins Hospital during the year but in which no definite cause for the bleeding could be ascertained, it was the general opinion that there had been only 10 or 12 such cases during the twelve months. Thirty or forty years ago the cause of uterine bleeding in many cases could not be definitely ascertained. Year after year our knowledge has been gradually increasing, until now, in a large clinic, there are not over a dozen cases in a year for which some satisfactory explanation for the bleeding cannot be given.

TREATMENT

Now a word as to treatment. I shall say nothing as to the handling of premature separation of the placenta, retained membranes or hydatid mole; you are as familiar with the proper method of treatment as I am. When a hydatid mole has been removed, the patient should be carefully watched for months and should bleeding be noted, the uterus should be curetted at once and chorio-epithelioma kept in mind.

When possible, tubal pregnancy should be

7. Kelly, Howard A., and Cullen, Thomas S.: *Myomata of the Uterus*, Philadelphia and London, W. B. Saunders Company, 1909.

diagnosed and operated upon before rupture. When the patient is shocked and almost *in extremis*, one has a strong impulse to operate immediately; but if she can be tided over for a short time and transfused just before or at the beginning of operation, the chances are very much better. Transfusion works miracles in such cases. One point in the technic when the abdomen is full of blood: Just as soon as the tube has been clamped, so that its bleeding has been checked, and prior to its removal, it is well to pack a large roll of gauze into each flank, and a large Mikulicz pad into the pelvis. By the time the operator has removed the tube these three pieces of gauze will have soaked up a large part of the free blood and much time will be saved.

Hyperplasia in young people calls for curettage every few months if the bleeding is excessive. In patients at or near the menopause, a dose of radium will bring on the menopause.

In carcinoma of the cervix, when the growth is limited to the cervix, the uterus freely movable and the patient a good risk, the uterus is removed. On the other hand, if the patient is very anemic, has renal or cardiac trouble, or if the growth had extended to the vaginal vault, then radium seems to offer the best chance of relief.

In cases of carcinoma of the body of the uterus we invariably do an abdominal hysterectomy. In such cases we first close the cervix with two mattress sutures, in order that none of the contents of the uterine cavity may escape. The vagina is then tightly packed with gauze and the abdomen opened. As all of you know, hysterectomy for carcinoma of the body of the uterus usually gives excellent and permanent results.

Fibroids: Small and medium-sized fibroids yield readily to radium and X-ray, but one is not always sure of the diagnosis. Let me refer briefly to three cases that have recently come under my notice.

REPORT OF CASES

On December 8, 1927, I saw Mrs. J. A. H., aged 40. Her periods for the last few months had occurred every two weeks, and had lasted from seven to ten days.

On pelvic examination, the body of the uterus seemed to be about the size of a two or three months' pregnancy. We made a diagnosis of fibroids.

Operation, Johns Hopkins Hospital, February 1, 1928. As soon as we opened the abdomen, we found the omentum adherent to the abdominal wall over a considerable area. The adhesions were loosened. On the right side, a piece of omentum, 4 cm. square was left attached to the abdominal wall, and the parent omentum cut loose. The omentum was also adherent to the pelvic brim on the left side. In loosening up the omentum, two or three loops of the bowel were found adherent in the region of the

cecum. These were loosened and raw areas turned in. At least five or six loops of small bowel were adherent to one another. These were separated with little or no bleeding.

On the right side was an ovarian cyst, at least 8 cm. in diameter, and attached to it was a small cork-screw-like hematosalpinx. The mass was adherent in the pelvis. Adhesions were gradually loosened, and then the sigmoid was found adherent to the posterior surface of the cervix.

We did a supravaginal hysterectomy and saved the left ovary.

On histological examination, in addition to the lesions already mentioned, we found an extensive adenomyoma of the uterus.

In this case the patient had had a tubal pregnancy seven years before.

Mrs. A. J. B. was seen by me on February 2, 1928. She was 45 years of age. Recently the periods had been excessive and there had been a dark irritating discharge.

On pelvic examination, the body of the uterus was found to be somewhat enlarged, globular and free from adhesions. Nothing was detected laterally.

Operation, Church Home and Infirmary, February 4, 1928. When the abdomen was opened, the uterus was found to be twice as large as usual, and behind it was some turbid fluid. We decided to do a supravaginal hysterectomy. As we began to cut across the cervix, we found a yellowish gray, sloughing, submucous myoma, nearly 4 cm. in diameter, projecting down into the cervical canal. We were able to remove it intact together with the fundus, and we then removed enough of the remaining cervix to take away the cup-like depression in which the submucous myoma had rested. Both ovaries were saved. Three cigarette drains were laid in the pelvis and brought out through the lower angle of the incision.

The patient had a very stormy convalescence but made a good recovery.

From the clinical history, we had not the slightest idea that a submucous, necrotic myoma existed.

On February 7, 1928, Mrs. M. E., aged 38, came to see me. Her periods had been regular until four months previously. She then missed one period, and had some pain in the right lower abdomen; there had been some irregular bleeding.

Occupying the lower abdomen, more prominent on the right than on the left side, was a globular mass which felt like a fibroid. One physician who had examined the patient thought she had a tubal pregnancy. In this he was supported by the history. Nearly every one else who examined this patient came to the conclusion that she had a fibroid.

Operation, Church Home and Infirmary, February 14, 1928. With the patient asleep, we could feel a mass to the right of the uterus. It was impossible to tell just what it was. We made a midline incision and immediately came down on a dark, bluish-gray mass, 8 by 5 cm. This was adherent to the descending colon and to the epiploic appendages. It was also adherent to the bladder peritoneum, and it lay just beneath the anterior abdominal wall. It was gradually loosened, brought out of the abdomen, and found to be a tubal pregnancy which came from the right side. Both ovaries were saved. The left tube was removed because it was blocked. The appendix was considerably enlarged and tied up in adhesions.

In each of these three cases one or more surgeons had diagnosed uterine fibroids; in none

of them would the results with radium or X-ray have been satisfactory. In a goodly number of our cases we have, in addition to the fibroid, adhesions and a chronic appendix, or some right upper quadrant abdominal trouble. In those cases in which hysterectomy is indicated but the hemoglobin alarmingly low, liver diet has, in our hands, yielded brilliant results, patients having a hemoglobin of from 15 to 30 per cent. soon improving so much that operation could be undertaken with little risk.

The treatment of fibroids is under the careful scrutiny of many surgeons and radiologists, and in due time we shall have clear indications when to operate and when to rely on radium or the X-ray. In the meantime our knowledge as to the causes of uterine hemorrhage is increasing steadily, and womankind is receiving better surgical care each year.

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PROGRESS OF PROSTATIC SURGERY*

J. HOY SANFORD, M.D.

ST. LOUIS

Preoperative Preparation.—Investigation of the effect of urinary obstruction has definitely established the necessity of preoperative preparation in all cases of prostatic obstruction. Drainage of the bladder is the most important factor in the preoperative treatment and is recommended for both the major and minor types of operation. Drainage is best accomplished by the urethral catheter, but in rare instances suprapubic cystostomy may be necessary. Continuous catheter drainage is preferable to intermittent use of the catheter. Gradual decompression of the bladder is of vital importance, as sudden release of back pressure occasionally precipitates uremia and alarming hemorrhage. Drainage allows recovery of renal function and stabilization of the cardiovascular-renal reserve. During the period of drainage toxemia is reduced to a minimum by increase of fluid intake administered by mouth, subcutaneously or intravenously. Comparative check on the kidney function and urea content of the blood is carried on during drainage, these two tests being considered of inestimable value relative to the selected time for operative interference. The importance of cooperating with a good medical consultant during the preoperative stage cannot be overestimated, as most of these individuals need careful study of the circulatory system. I consider that preoperative preparation which consists largely of the points just enumerated to be the outstanding achievement in the recent progress of prostatic surgery.

Surgical Technic.—Improvement in anesthesia has contributed its share to the progress of prostatic surgery. Appreciation of the desirability of avoiding the inhalation types of anesthesia in a large proportion of cases has long been recognized. Under general anesthesia the importance of using ethylene, or nitrous oxide gas, in a negligible quantity and only for relaxation purposes during the prostatic enucleation, is found to be satisfactory in most instances, but is not devoid of an occasional pulmonary complication. Spinal or sacral anesthesia obviates the disadvantages of general anesthesia and is preferable in some cases to general anesthesia. The disturbances of blood pressure with lack of complete anesthesia in all cases makes this type of anesthesia occasionally objectionable. With a better understanding as to the control of blood pressure and with an increasing efficiency toward complete anesthesia, I am inclined to believe that spinal or preferably sacral anesthesia will eventually replace the inhalation type of anesthesia altogether, for many reasons, chief of which I may mention is the uninterrupted post-operative care as regards diet, administration of liquids, etc.

Control of hemorrhage has been a happy and important factor in the advancement of prostatic surgery. Many suggestions and appliances have been offered to control bleeding and at this present time hemorrhage to an alarming degree is a rarity. So proficient are the methods now in use following prostatic enucleation that the one time popular and effective method of packing the prostatic capsule with iodoform gauze has been put into the discard. Its disadvantage was that the gauze became enmeshed in the granulation tissue of the capsule and when removed precipitated bleeding to a variable degree and occasionally ushered in severe secondary hemorrhage. Appreciation of the importance of blood transfusion deserves mention here, not only in the control of hemorrhage but in preoperative toxic anemia and in postoperative shock.

Advances have been made in both the suprapubic and perineal operations, as well as in the choice of a complete one-stage suprapubic prostatectomy or dividing the operation into two stages. The type of operation (suprapubic or perineal) I think is an individual question and should be answered by doing the operation one feels he is best equipped to perform. Cases selected as fit for the one-stage suprapubic operation must be devoid of senility, severe cystitis, or marked renal insufficiency where prolonged drainage is necessary, and associated bladder lesions, such as stone,

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tumor and diverticulum. There is no doubt in my mind that the one-stage suprapubic prostatectomy permits of the application of the principles of surgery to much better advantage than the two-stage operation. In the older man, with all the signs of the effects of long standing urinary obstruction, the two-stage operation is the method of choice.

Cautery Punch Operation.—Various cautery punch appliances have been put on the market for the removal of minor vesical neck obstructions. A few years back about 20 per cent. of prostatic obstructions were thought to be amenable to the cautery punch operation, but recently through a better interpretation of the vesical neck and a more thorough appreciation of the transformation of the vesical neck under drainage, this percentage has steadily been on the incline. It was thought that median bar formations and vesical neck contractures were the selected types of obstruction for the cautery punch operation, but the field of usefulness has shown to advantage in moderately large obstructions. The first interpretation of the vesical neck is very deceiving at times, as considerable engorgement and edema will subside under preliminary catheter drainage and a second cystoscopic examination will often disclose a marvelous transformation of the original picture and instead of a prostatectomy being indicated, the cautery punch will serve the purpose admirably. The rectal prostate will occasionally show wonderful changes in size under preliminary catheter drainage and it is not at all uncommon to feel a prostate that gives every evidence of a typical large benign hypertrophy fade away under drainage and at some future examination be so reduced in size as to offer encouragement for the cautery punch. Also, under drainage this same rectal prostate may give you the shock of your life by eliciting a typical carcinomatous prostate after the engorgement, congestion and edema have abated. We should make it a rule never to be satisfied with one rectal prostatic examination, nor with the one cystoscopic examination, for if the picture is unchanged under a certain amount of drainage we are quite sure of our original diagnosis. Experience and observation have also shown that following suprapubic drainage the rectal prostate should be occasionally palpated before the enucleation stage has been satisfactorily reached, for in a few cases a typical benign prostate will have been transformed into a stony hard one quite characteristic of carcinoma. In this particular type of case enucleation is very difficult and a cautery punch operation will replace major surgery satisfactorily. The importance of a preliminary cystoscopic exam-

ination, if the patient's condition is found to be reasonably safe for instrumentation, cannot be overestimated. This is true for the reasons just enumerated, as well as looking for associated lesions in the bladder. It is a well known fact that the contractures, which we are beginning to recognize as being much more common than ordinarily considered, constitute a moderate proportion of vesical neck obstructions and give the same symptoms as the larger obstructions.

Cases that are considered bad risks for various reasons and require long painstaking pre-operative drainage can be made reasonably comfortable by repeated punch operations, which present little risk. This is true in some instances without suprapubic drainage and particularly true after suprapubic cystostomy, where further operative interference seems inadvisable as remarkable vesical neck transformations occur from long periods of drainage reducing the primary picture from one of massive prostatic encroachment to that of typical sclerosis or contracture. The punch is particularly effective in postprostatectomy fistulae, due to tags or minute lobules left behind. The punch has a definite field of usefulness in carcinoma, which is usually accompanied by a dense sclerosis so difficult of enucleation. One should bear in mind that the carcinomatous prostate offers the same obstructive danger to the kidneys as the benign prostate and will oftentimes present the same toxic symptom complex as the benign growths. Some of these cases are labeled as carcinomatous cachexia when relief of the obstruction will make them fairly comfortable by reducing the obstructive toxicity, thereby improving their anemic appearance which in some cases, particularly if devoid of metastasis, is due to the urinary toxic absorption rather than the actual malignancy. Deep X-ray therapy and radium may be used in conjunction with the above treatment to advantage.

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DISCUSSION

DR. F. M. MCCALLUM, Kansas City: I was much interested in the doctor's paper; it was very good. However, I don't think it went quite far enough. He didn't explain to you the blood chemistry or the blood coagulation time, which I think are the most important things in the preparation of a prostatic case.

Whenever a low kidney function test and high creatin urethra retention with obstruction is present, drainage is imperative before operation. That drainage might be through a catheter or suprapubic cystostomy, but I would like to ask how many surgeons have ever had the experience of an indwelling catheter. Try it some time. Ask your patient who has had an indwelling catheter. It is a most insufferable thing. A suprapubic cystostomy is not

objectionable. A suprapubic cystotomy can be done under either local or general anesthesia. The bladder can be thoroughly inspected in the diverticulum and foreign bodies can best be removed at that time. The patient is entirely comfortable after two or three days; in fact, after a day.

Those patients that can stand an indwelling catheter, well and good. Why take two bites at a cherry? There are only a few who can tolerate the indwelling catheter.

The control of hemorrhage is one of the important things in prostatic surgery. Most of these cases will frequently have a high coagulation time and if it is not down as low as two minutes you had better treat the patient until the coagulation comes down to that time.

During the operation I see no objection to packing the prostatic cavity even with gauze. It is true that the Hagner bag will not control a hemorrhage; neither will the Pilcher bag, but a gauze pack will control it. If you leave it long enough, forty-eight hours, you will very seldom have a secondary hemorrhage.

In the preparation, the patient's blood coagulation time should be down low and the function test brought up, the creatinin and the blood chemistry come down not to a normal but to a stable basis where it is not changing from day to day, and when the patient is moist, the skin is moist and the tongue is clean. He has gotten over the dirty, yellow look from the amount of water forced upon him, and then is the time for the prostatic operation.

DR. N. F. OCKERBLAD, Kansas City: Dr. Sanford mentioned spinal anesthesia and other forms of local anesthesia as being so important in prostatic operations as possibly being able to supersede the inhalation anesthetics. This is quite true. Some work that we did upon spinal anesthesia using ephedrin to sustain the blood pressure has resulted in greatly improving spinal anesthesia, and we consider that spinal anesthesia thus used with ephedrin is very much safer and more effective than the old method where the blood pressure dropped to startlingly low levels.

We have also had some very interesting experiences in the study of the blood pressure levels during the preliminary period, or preparation period, in prostatics. We find that patients may often be admitted to the hospital with blood pressure of say 160, and upon catheter drainage or suprapubic drainage, the pressure rapidly drops to around 100 or 105. If the patient is operated on at that time he will surely die within three or four days. We must wait until the blood pressure has been established at a new level. We find that all prostatics that have a hypertension after they have recovered from the operation and left the hospital have established a new and lower blood pressure level.

Another thing that has been brought out by Shaw, of Johns Hopkins, is that our ordinary function tests which are done on the one-hour, two-hour basis, do not tell the whole story. Shaw showed that forty per cent. of phthalein in normal individuals was excreted in the first fifteen minutes after injection. We have been dividing our functional tests into fifteen minute periods and have found that the individuals who have the peak of their elimination, whether it be creatinin or phenolsulphonephthalein, in the third and fourth fifteen-minute periods after injection are the cases with seriously damaged kidneys and need very careful consideration.

The statement of Dr. Sanford that the preparation period is the all important thing is quite correct. If we have the preparation period well done and the anesthesia properly selected we may safely proceed

with the operative interference with a high percentage of success.

DR. J. W. THOMPSON, JR., St. Louis: The most important advance in surgery of the prostate, in my opinion, in recent years has been the application of two very fundamental general surgical principles to the surgery of the prostate, namely, the adequate control of hemorrhage, and visualization of the operation through adequate exposure. This is best done under sacral anesthesia. Spinal anesthesia is attended with many dangers that can be obviated by the use of sacral anesthesia, as demonstrated by Labat, Lundy and numerous other operators.

The Pilcher-Hagner bag will control hemorrhage; there is no question about that. In some 200 cases of prostatectomy I have only seen two, possibly three, cases that could be attributed to the failure of the Pilcher bag. With adequate preoperative preparation, getting the patient in good shape, bringing his phthalein up and his blood urea down, unquestionably sixty to seventy-five per cent. of men with prostatic hypertrophy can be operated on in one stage thus saving them the added economic burden, increased period of hospitalization and the suffering attendant upon two or more operations.

There are a number of cases, Dr. Sanford plainly stated, which cannot be operated upon in one stage due to visceral disease and other things that are best discovered through cooperation with the internists, especially the cardiologist.

In regard to the preparation for operation by the indwelling catheter, personally I have seen very few patients who cannot tolerate a catheter and who are not very comfortable with a catheter after two or three days. True, they have trouble for two or three days, but usually they can tolerate the catheter, with a bottle in which it drains, continually and go around the street and attend to their business. I had a banker who took care of his business at the bank for three weeks. He couldn't get his affairs in shape and I left the catheter in him for three weeks, changing it every week to be sure it was clean. He was extremely comfortable, had no trouble and was operated on at one stage and back at work a month following his operation.

With these considerations, applying principles of the two fundamentals of surgery, adequate hemostasis and open visualization of the operation whenever possible, I think the story will continue to be true that we will further reduce our mortality in prostatic surgery.

HEMATURIA AND PYURIA

UROLOGICAL AIDS TO THE GENERAL
PRACTITIONER*

O. J. WILHELMI, M.D.

ST. LOUIS

Since in the scope of this paper it would be quite impossible to discuss everything in urology, I am going to confine my discussion and slides mainly to the significance of hematuria and pyuria, and the possible varieties of pathology which could cause these conditions.

Suppose we start with the greater of the two evils, namely hematuria, and note its significance. Microscopical types alarm the patient and usually send him immediately

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to the doctor, but microscopical hematurias go unobserved by the patient and often lead to serious terminations. No doctor should treat a hematuria expectantly, for it usually



Fig. 1. Double pyelogram in recumbent posture with kidney pelvis opposite the second lumbar vertebra demonstrating a bilateral hydronephrosis.

signifies serious pathology and exhaustive measures should be exercised at once to determine its source.

By the use of the three glass test we can determine whether the bleeding is coming from the anterior urethra, posterior urethra or the bladder. Most bleedings from the posterior urethra are caused by polyps, neoplasms, tuberculosis of urethra or prostate, granulations, verumontanitis or prostatic inflammations. With assistance of the endoscope we can definitely determine the etiology and can usually control the hematuria by local applications through the instrument. Another type of hematuria which really belongs to this type is the terminal hematuria. Here all glasses are clear, and at the end of urination the patient expels a few drops of blood. This condition usually shows some pathology in the prostate, often merely a severe prostatitis.

We now come to the type of hematuria that has all three glasses smoky or tinged with blood, and our only conclusion is that the source of the blood is the bladder, ureters, or kidneys. The urologist as well as the practitioner is quite at loss to tell the exact source of this bleeding, unless he resorts to his urological armamentarium and in all probability his first choice will be the cystoscope. In the hands of trained urologists and with proper anesthesia the cystoscope is passed with little or no pain and is the best aid in rendering an accurate diagnosis. With the assistance of X-ray and pyelography, inconceivable diagnoses

can be made today which years previously would have required exploratory surgery.

When a patient presents himself to you suffering from marked frequency, tenesmus and urgency, you of course surmise he has a cystitis. The urine looks dirty and often is blood tinged at the termination of the act. The patient frequently has bladder cramps and urgency of such degree that occasionally it borders on incontinency, causing him to wet himself involuntarily. The question that will arise at once is whether all these symptoms are caused by the cystitis alone, and if so, what is the source of the cystitis? Our only means of accurate diagnosis concerning the bladder pathology, as well as that in the upper urinary tract, is the cystoscope. As a rule inflammatory conditions are caused by infections higher up and the annoyance to the vesical mucous membrane is due to these higher infections. Cystoscopically these bladders show a marked congestion of the mucous membrane throughout, and this congestion usually is most marked along the trigone or around that ureter which excretes the infected urine.

Bladder stones may exist without any symptoms especially when lying behind an obstructing prostate or in a diverticulum. It should be explained that these patients as a rule have infected and alkaline urines, and so many other symptoms are prevalent that the stone is often overlooked. The most characteristic symptom



Fig. 2. Same as Fig. 1 in upright posture demonstrating ptosis of kidney to base of 4th lumbar vertebra.

of bladder stone is pain which is most acute when the patient moves about, jumps, or turns suddenly in bed, and especially noticeable at the end of micturition. In children we

often notice a referred pain in the head of the penis.

Frequency of urination is ordinarily the initial symptom of *tuberculosis* of the bladder



Fig. 3. Right ureteral catheter in contact with ureteral stone; also demonstrating biliary calculi of old standing.

and the one which is most agonizing to the patient. Frequency persists at night as well as day, often occurring every thirty minutes and uninfluenced by rest or motion. As a rule a secondary infection occurs in these bladders which causes the pain as well as the urgency to become more severe. In urinary tuberculosis hematuria often occurs primarily and usually manifests itself by a few bloody spurts at the end of urination, causing the urine to be smoky in appearance which differs from the profuse bleeding found in bladder tumors. Any cystitis which contains pus in the urine with no bacteria and is rebellious to ordinary treatment should excite one's suspicion as to its being tuberculosis. It is most aggravating in some cases to demonstrate tubercle bacilli in the urine and innumerable attempts may prove fruitless. The cystoscopic picture usually is quite typical and the small capacity of these contracted bladders will often diagnose the case before any bladder observations are made. I have seen many of these bladders incapable of holding more than $\frac{1}{2}$ teacup of water without agonizing pain and gas anesthesia was essential for cystoscopy. Recently we have successfully and painlessly cystoscoped these patients under twilight sleep and spinal anesthesia. The bladder is frequently red and "beefsteaky" in appearance with

bullous edema along the trigone, and grayish-yellow tubercles along the mucosa and often around the affected orifice. If the process is more extensive petechial whorls and ulcerations may be observed on the dome which results from contact along the trigone when the bladder is empty. Chronic conditions show a ragged, distorted orifice and a piling up to form the well known "golf-hole" orifice.

The most constant and frequently the first and only symptom of *tumors* of the bladder is hematuria. When a profuse and painless hematuria occurs one should always be suspicious of bladder tumor and the patient should be cystoscoped as early as possible. This bleeding may be intermittent, often several weeks elapsing, and then, when the patient again presents himself after this prolonged interval, it is possible that our benign growth may have undergone malignant degeneration. Pain in vesical tumors is variable and may be entirely absent, or a mild ache, or a severe, constant, agonizing pain over the entire bladder. As the tumor progresses, pain radiates down the thighs and legs due to the extent of the growth upon the pelvic nerves; the urine often becomes secondarily infected causing a painful cystitis; or the growth may involve the ureter resulting in a pyonephrosis, hydro-ureter and hydro-nephrosis from obstructed drainage. The operating cystoscope has not only rendered

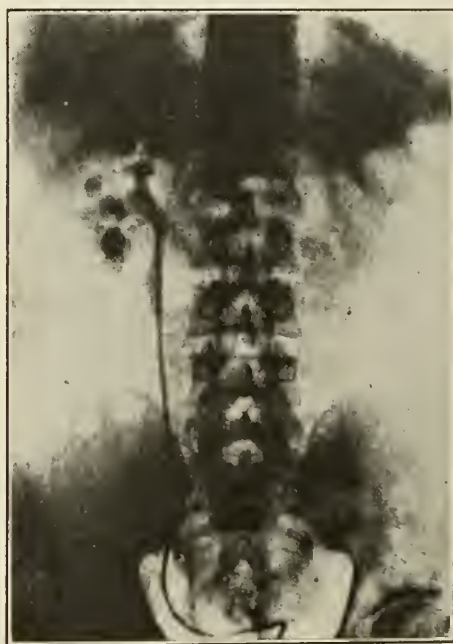


Fig. 4. Numerous calculi in renal tissue demonstrating the value of definite preoperative location.

the diagnosis of vesical tumors quite simple but also it is the most effective means of treatment and often an eliminator of major surgery, which I shall attempt to demonstrate with slides later.

When a man past the fourth decade presents himself with frequency nocturia, urgency and tenesmus, one should be alert for *prostatic hypertrophy*. These men begin with arising but once or twice a night to urinate and finally the nocturia increases to 5 or 6 times and the micturition becomes much more difficult. Pyuria usually exists, for these patients never completely empty their bladders and the residual urine varies from one to several pints depending upon the size of the obstruction and its duration. Quite often dribbling occurs, and these old men wet themselves involuntarily and become objects of pity. There are evidences of loss of sleep, lack of appetite and increasing mental unbalance bordering on uremia. Finally after undue exposure or excitement they get a complete retention and are unable to void at all. These patients must be catheterized to afford relief, but these over-distended bladders should be emptied piecemeal and very cautiously for I have observed fatal hemorrhages resulting from too rapid a release of urine.

Rectal examination in the majority of cases will reveal a large prostate but in cases of a large median hypertrophy the rectal examination may show nothing startling. Cystoscopic examination will give an exact picture and eliminate the neurogenic

bladder or cord lesion bladder which has similar symptoms and often misleads the operator. The neurogenic bladder shows a relaxation of the internal sphincter, but ab-



Fig. 6. A hypernephroma with obliteration of the kidney pelvis and marked retraction of the minor calices toward the kidney cortex.

solutely no hypertrophy at the prostatic neck. These neurogenic bladders simulate large prostatic bladders in that they also have a large residual urine after voluntarily emptying the bladder.

When we pass on to *kidney* conditions we are confronted with more complex problems and a process of elimination is essential before we can arrive at an accurate diagnosis. Only too often do we see urinary disturbances which simulate gallbladder and appendiceal conditions so closely that unless they are properly worked up will cause erroneous diagnoses and unsuccessful surgical results. If a patient has a cloudy urine which we are confident does not come from the anterior or posterior urethra and does not react to bladder treatment, we should feel assured that the source of the pus lies in the kidney. The symptoms of pyelitis, acute pyelonephritis and suppurative nephritis do not vary greatly and usually a pyelitis is accompanied by the other two conditions.

Mild *pyelitis* is ushered in lightly. The patient exhibits a slight rise of temperature, a mild leucocytosis and often a tender kidney on the affected side. In this type the colon bacillus is the usual invader. On the other hand severe cases of pyelitis are caused by the staphylococcus or streptococcus and the clinical picture is quite a contrast. The patient often has chills followed by 103 to 105 temperature, leucocytosis of 15,000 to 25,000, nausea, vomiting, and during the attack may have a fairly clear urine,



Fig. 5. An intramural ureteral calculus which permitted passage of ureteral catheter into kidney pelvis.

but tenderness is usually elicited by ballottement on the affected side.

Ureteral catheterization will not only disclose the affected kidney, but also the variety of organism, and after a few hours of catheter drainage and kidney lavage with antiseptics will customarily cause a decided fall in temperature. Pyelitis must be suspected in any unexplainable febrile condition in children, and it should always be excluded in acute abdominal conditions, especially appendicitis.

A case which has persistent cloudy urine containing pus but no bacteria should be suspected *tuberculosis*. Repeated urine analysis and guinea-pig injection may show negative findings, but untiring efforts will usually demonstrate tubercle bacilli. The predominating symptoms other than the cloudy urine are frequency of urination and hematuria. These patients show a gradual increase in diuria and nocturia as the disease progresses and often they urinate every 15 to 30 minutes during the night as well as during the day. This marked frequency is caused by the irritability contracture of the bladder which has become secondarily infected. The hematuria primarily may be very light and passed up as insignificant, for it is often the only symptom in early cases. Later on, there are recurrent attacks and the bleeding may be profuse. Pain may be totally absent or of a low dull type at the costovertebral angle but late in the disease the vesical pain is quite severe and colicky in nature.

Diagnosis can occasionally be clinched by the bladder picture explained above, but more so by the demonstration of tubercle bacilli from the affected kidney and by pyelography. Since these bladders are very irritable and this class of patients resent cystoscopy very much, every effort should be directed toward gaining as much information as possible from a single cystoscopy. Ill-advised, repeated, unskilled attempts only result in embarrassment to the operator and often grave danger to the patient.

Kidney calculi are usually associated with obstruction and infection and the colon bacillus is the offending organism. Pain is an exceedingly common symptom being present in 80 per cent. of these cases, but 20 per cent. have silent stones which cause no pain whatsoever. Renal colic is the most characteristic symptom and manifests itself by a sharp excruciating pain beginning in the kidney region, often referred to the back, and running along the course of

the ureter toward the bladder. On the right the pain is often mistaken for appendicitis and biliary colic. The pain often radiates upward toward the shoulder and if on the left side may be mistaken for angina pectoris. These colics may last from a few seconds to several hours, and even days or months may intervene between these attacks. Abnormality of the urine, immediately and also during the attack is the most common symptom. The three main urinary findings are albumin, pus, and blood in varying amounts. Microscopical hematurias are quite rare. Occasionally a total anuria results from blockage by the stone, and one must rule out extra-ureteral shadows, such as phleboliths. The pyelograms will demonstrate in which calyx the stone is held and aids during the operation to simplify its exact location.

The three cardinal symptoms of *renal tumor* in the adult are hematuria, tumor, and pain. The hematuria is spontaneous and of not great severity at the onset but often enough to alarm the patient. He frequently passes worm-like clots in the urine; but all this may subside and the patient may go months before another attack occurs. As the tumor progresses the hematuria becomes more aggravating and abundant. The pain is quite variable ranging from a dull constant ache which is caused by distention of the renal pelvis with clots, to a sharp colicky pain due to passage of particles of tumor or large clots down the ureter.

On account of the anatomical position of the kidney, it is difficult to determine much from palpation in early tumor, but as the tumor increases in size it may be felt as an irregular mass below the last rib and often causes a bulging mass which moves about with respiration.

While the above symptoms aid in rendering a diagnosis they are by no means in themselves diagnostic of kidney tumor. One of the greatest difficulties the urologist faces at times is to render an unquestionable diagnosis of early kidney tumor. Tumors of the liver, spleen, pancreas and ovaries must be eliminated, as well as hydronephrosis and polycystic kidneys. Here again cystoscopy and pyelography are of the utmost advantage and ureteral catheterization is essential preoperatively to determine the function of the good kidney. The pyelogram shows a characteristic picture which is of paramount importance in diagnosis. From the above it is evident that a series of methods must be employed to arrive at an accurate diag-

nosis and especially before any surgery is performed.

CONCLUSION

In conclusion allow me to emphasize the following points:

1. That no hematuria should be treated expectantly.
2. That frequently inflammatory conditions of the bladder are caused by infections higher up.
3. That calculi in the urinary tract usually have infected and alkaline urines.
4. That dirty urines which contain pus but no bacteria frequently signify tuberculosis of the kidney or bladder.
5. That a profuse and painless hematuria usually signifies bladder tumor.
6. That old men with increasing nocturia and frequency most probably are suffering from enlarged prostates.
7. That ureteral and kidney conditions often simulate acute appendix or gallbladder disturbances.
8. And lastly, that an accurate diagnosis and essential preoperative knowledge can only be obtained in urological cases by means of cystoscopy and pyelography.

218 University Club Bldg.

DISCUSSION

DR. N. F. OCKERBLAD, Kansas City: One thought that occurs to me immediately as I begin the consideration of pyuria is, how many pus cells constitute a pyuria, and how many pus cells in how much urine? Ordinarily pus cells are reported on the basis of "so many" per high powered field.

Some time ago it occurred to me that the high powered fields on the microscopes were all different and if one took a film of urine and placed it on a slide with a cover slip on top of it, the thickness of this film of urine would differ in every instance. One never could place two alike, so the variation in reporting pus on the basis of so many per high powered field is very inaccurate.

We began using a method of reporting pus by using the Fuchs-Rosenthal counting chamber, the spinal fluid counting chamber, which is two-tenths of a millimeter deep, counting the pus cells per cubic millimeter and reporting them on the basis of so many per cubic millimeter. If this is done and the specific gravity is reported at the same time we have a very accurate basis for the reporting of pus or blood cells in the urine.

Dr. Wilhelmi has mentioned a very great number of interesting cases. Perhaps the most important thing about hematuria is that it should mean to the average practitioner a grave sign of danger. The cases that come to our notice, notably those of bladder papilloma, have an average duration of more than a year and a half of hematuria before they are seen. That means in case of a bladder papilloma which might have started off as a benign growth (although that is somewhat of an academic question), had it been seen as a tiny frond, could easily have been destroyed. Generally after two years duration it has so encroached upon the surrounding structures that it is no longer operable.

Hematuria should mean to the average practitioner one of three things because eighty per cent. of the hematurias are caused by tumor, stone or tuberculosis. The other twenty per cent. have a wide variety of causes.

Dr. Wilhelmi's paper is one that should be of great interest because it presents two subjects that are of vital importance.

FOCAL INFECTION

SOME REMARKS ON THE OPERATIVE TREATMENT*

V. V. WOOD, M.D.

ST. LOUIS, MO.

It is very probable that many among you have been frequently disappointed by the failure of operative procedures to clear up focal infection syndromes. While the failures of nonoperative treatment may greatly outnumber those in which operative measures were instituted it would certainly appear that the latter are not as successful as they should be from a purely theoretical or hypothetical standpoint. It seems reasonable that when the suspected focus is removable excellent results should be anticipated. Have these results been all that one should expect? If they have not, why not?

Some of the reasons that the desired results are not obtained by the attempted operative removal of primary foci may be summarized briefly as follows:

1. Faulty diagnoses, both as to the type and location of the primary focus (in undoubted focal infection syndromes) and as to the condition being purely a focal infection manifestation.
2. Multiple foci.
3. Incomplete removal of the primary focus.
4. Too long delayed removal of the primary focus thus permitting secondary foci to become so firmly established that they cannot be overcome by the body even after the extra load of the primary focus has been removed. In other words, another form of multiple foci, but one which might have been prevented by earlier operation. These remaining secondary foci may subsequently become as harmful through the production of tertiary foci as the primary focus was originally.

FAULTY DIAGNOSIS

The danger of a mistaken diagnosis cannot be too strongly emphasized. It seems to the writer that perhaps focal infection has been a bit overworked during the past decade as a cause of human ills. Since Dr. F. Billings

*Read at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

read his epoch making paper on focal infection and published it in the *Journal of the American Medical Association* in 1916, nearly every obscure ailment on record has been attributed to some metastatic infection. We are now beginning to awaken to the fact that focal infection is not the sole and complete explanation of many conditions that we believed or fondly hoped would be cleared up by eradication of infection. We have been too prone to consider some older ideas of metabolic, circulatory and luetic activities as obsolete myths. Dr. Ralph Pemberton has recently begun to awaken the profession to new ideas on certain forms of arthritis. Others have brought forward some startling facts about the effects of vitamin controlled diet and endocrine medication.

The writer has repeatedly attempted to emphasize certain ideas about focal lesions that have forced themselves upon him. He has attempted to demonstrate in a theoretical way perhaps that all inflammatory focal lesions are not necessarily the result of infection. If all are not derived from a primary infection site then we are off on a false scent if we look merely for infection. All so-called toxic manifestations are not secondary to infection and many hypersensitive or allergic conditions manifest themselves in sequence of events, one after the other as does focal infection—and yet no infection may be present to act as the suspected pilot light. A constitutionally allergic or hypersensitive individual is not necessarily touched off on a new tack by infection in every instance. It is claimed by Duke that they may even react to physical agents, such as light and heat. It is true that profound nasal allergies usually get a chronic nasal sinus infection eventually and are frequently improved greatly for years after a chronic antrum is drained. However, it will prove disappointing and misleading in the end to work on the theory that the individual in question is an allergic patient solely because of his nasal sinusitis. A careful history will usually reveal that other members of the family were also allergic. Frequently this history will go back several generations and while some members may also have had hay fever, hyperesthetic rhinitis and such forms of nasal hypersensitiveness, others may not even have exhibited an asthma or any respiratory form of allergy, but have had urticaria, persistent eczemas and angioneurotic edemas of the face or digits. Many swollen joints and so-called arthritic conditions are nothing more nor less than an "angio" manifestation of allergy. Without proper testing and removal of the irritating allergens, either by diet or changes in the patient's environment,

no amount of operating on suspected foci will clear up the condition satisfactorily.

The writer has steadfastly maintained for many years that the obscure and unexplained connection between nasal sinus operations and improvement in certain eye conditions is not always connected with focal infection in the sinuses. From coast to coast otolaryngologists have reported remarkable recoveries in eye lesions after certain sinus and nasal operations when even at operation the sinuses appeared to be normal. Operating on a dead focus to cure something that it may have produced when formerly active cannot logically explain such recoveries. Whether trophic or pressure disturbances produced by positive or negative pressure within the sinus can explain such results or not is hard to say, but it certainly would appear that we must look elsewhere than focal infection for an adequate solution of many of these results.

To go into all the phases of this one branch of the subject would take more than one day of this meeting, so with the hope that the few points already mentioned as a warning have been properly grasped to convey the idea attempted the writer will pass on to the next item.

MULTIPLE FOCI

Much could be written about the subject of multiple foci. Obviously it seems futile to remove one focus and leave several. Therefore, if a patient has both infected tonsils and infected foci about teeth it is as important to have the dentist clean up his field as it is for the otolaryngologist to remove the tonsils.

The writer has frequently attempted to stress the point that all the infected pharyngeal lymphoid tissue may not be localized in the tonsils and adenoids prior to tonsillectomy and adenoidectomy. The extratonsillar pharyngeal lymphoid tissue is very profuse and prominent in certain types of patients. After operation in such patients this remaining extratonsillar pharyngeal lymphoid tissue may hypertrophy markedly and may continue to be severely infected and maintain the activity of the secondary foci. The hypertrophy of this tissue can continue until it approaches, equals and sometimes even surpasses the removed tonsils in actual volume and mass. Herein frequently lies the explanation for the failure of tonsillectomy to cure focal infection when the history may have very definitely pointed to the pharynx as the cause.

INCOMPLETE REMOVAL OF THE PRIMARY FOCUS

The almost inevitable result of the incomplete removal of a primary focus seems so

self-evident that it should need little comment. If infected portions of a tonsil are left in the tonsillar fossae and become covered over with dense scar tissue the infection remaining may be under relatively greater pressure and confinement than before operation. Its danger as a focus of infection is, therefore, increased instead of diminished even though the amount of tonsillar tissue is much reduced in size. The same is true of incomplete extirpation of infected ethmoidal cells. If infected cells are overlooked and finally become sealed in with densely fibrous scar tissue the patient may complain more bitterly of pain and headache and have more severe arthritis, endocarditis, neuritis or other secondary infectious and toxic manifestations than prior to operation. The result is similar if a tooth is removed, the maxilla fractured and then the wound is left to heal as it will. It frequently happens that after new areas have been opened up to infection the wound is given little after care and is allowed to heal over prematurely and seal in much debris and infection. Such cavities should be carefully watched and made to heal from the bottom.

BELATED REMOVAL OF THE PRIMARY FOCUS

The failure to remove a primary focus early enough or before secondary foci have become firmly established is frequently not the operator's fault. The patient often comes to the physician too late or if he arrives in time there may be too much delay in taking his advice on the part of the patient or because of consultation with well meaning relatives or friends. Secret consultation by the patient with amateur or lay healers is one of the most irritating and insidious obstacles in a physician's life. Over these conditions we have no control, although we may place some hope in future education and enlightenment of the public.

The writer is very conservative in his prognoses when cases of focal infection come to him late in their course for cure by operative eradication of the primary foci. Repeatedly cases have been referred with the diagnosis already made by the referring physician that the origin of the trouble was in the tonsils or nasal sinuses and that removal of the offending focus or foci would surely remedy the condition. In such instances the writer always takes the precaution carefully and tactfully to correct or at least modify this impression in order to avoid the possibility of great disappointment to the patient and the referring physician. In carrying out this policy the writer has probably acquired the reputation in some quarters of being too conservative.

He does not believe this is true, but he does admit that he is very conservative in his prognoses when cases of focal infection come to him late in their course for cure by eradication of the primary foci. However, in early cases it is the writer's habit to be just the opposite. He certainly advocates quick and urgent action against all possible or suspected foci in early cases of undoubted focal infection. In spite of the fact that even in early cases no man can say at just what hour a secondary focus may have become firmly established, quick and prompt action is the best means of preventing such an occurrence. The urgency of the case determines to a great extent the amount of gamble on the result of operation that is justifiable. For instance, if a patient is going blind, or if his heart, circulation or kidneys are being rapidly ruined by some infectious or toxic focus, then it becomes the old story of a drowning man catching at a straw. He should be urged to consent quickly to an attack being made upon every possible primary focus if removable. The urgency of the case may sometimes suggest that this should be done before sufficient time can elapse for a positive and sure diagnosis to be made.

However, in old well established focal infection syndromes the prognosis of cure by a belated removal of the primary focus can hardly be too guarded. While it is remarkable how long a primary focus can exist in the body in some instances without firmly establishing unremovable secondary foci, nevertheless, the danger of such an occurrence increases with every day the process continues.

The writer had the sad opportunity a few years ago of witnessing an autopsy upon an old and very dear friend who had been suffering for years (ten or twelve) with a very persistent and deforming variety of arthritis which began at about the menopause. Prior to her death from pulmonary edema the arytenoids had become dislocated from the cricoid articular surfaces due to the arthritis attacking the laryngeal joints. When the larynx was removed the arytenoid bones were found to be decayed and practically destroyed. The left arytenoid was decalcified and literally eaten away. An ulceration through the mucous membrane led down to a purulent decalcified pus sac where this bone had been. Other joints showed similar degrees of bone destruction. The epiphyses and articular surfaces of some of the digits and smaller bones of the hands and feet were easily cut through near their articulations with a blunt scissors and the bones themselves were not unlike the inner decayed and softened wood of an old

rotted stump in a forest. How any man could view that postmortem and still believe that any sort of a tonsil or nasal sinus operation could markedly affect that advanced condition or benefit one of those joints is beyond my comprehension. Still, just as hopeless conditions have been sent to our office by excellent men with a strong hope instilled in the patient's breast that a cure could be affected by removing a tonsil. What more potent focus for the spread of infection to other parts is needed than one such joint? These conditions become problems of treatment for the specialist in whose field they occur.

CONCLUDING REMARKS

What the writer strongly advocates is a more frank and open understanding between the physician and patient as to the exact amount of chance that is being taken on the result. Disappointed patients form the nuclei of the foundations of the chiropractor's and quack's business. If a man is told frankly and above board the exact amount of chance on the result that both the physician and himself are taking then everyone's conscience is clear and there are no painful aftermaths or any necessity for impossible explanations or embarrassing excuses for failure. The physician has then conscientiously done his duty and the entire responsibility from there on is upon the patient and he can make his own choice. We have all seen wonderful results following the removal of primary foci in focal infection cases. However, the writer has also seen many miserable and disheartening failures. In fact he believes he has seen more indifferent results and failures than brilliant recoveries. These failures are not only bad for the physician involved, but also for the profession at large. After a patient has hopefully and cheerfully sacrificed, one after another, his tonsils, teeth, nasal sinuses, appendix, gall-bladder, prostate, ingrown toenails, and what not, and is still no better of his supposed focal infection, is it any wonder that he turns to one of the cults?

In advocating such a policy the writer has not overlooked the fact that it is extremely difficult, in fact almost impossible, to be absolutely honest at all times in the practice of medicine. Patients seldom appreciate such treatment as they should. It does seem that Barnum was right years ago if he was correctly quoted in saying that people liked to be "duped" and that a fresh "sucker" was born every minute. It is true that when told the bare facts much valuable time is often wasted by the patient attempting to make up his mind about a problem which is beyond him. They

would do much better to blindly follow the physician's advice—but that is expecting too much of human nature. However, in spite of all that, is it justifiable to tell a man that something will positively happen following a certain procedure when the outcome is actually dubious?

In concluding, attention should again be called to the danger of mistaken diagnoses. Many obscure manifestations of disease are today thrown carelessly into the focal infection "scrap heap" because they are not worked up carefully enough to make them fit accurately into any other niche. In our wild rush to get into the focal infection "band wagon" as a cure-all for every idiopathic or baffling ill not otherwise explainable offhand, let us not wander too far from the old beaten paths, such as lues, constitutional and circulatory states and defects. If we are going to keep the confidence of the laity we must also keep the percentage of their disappointments very low. This can only be done by accurate diagnoses and prognoses. The percentage of disappointments in focal infection promises has been too high in the past. We must warn our patients that the cure of focal infection by operation is less certain than we once thought. We must explain to them about the possibility of the existence of undiscoverable multiple foci; we must also explain to them about the possibility that the secondary foci may have already become too firmly implanted for the body to overcome even after removal of the known primary focus and in certain instances it is even justifiable to mention that perhaps the known primary focus cannot be completely removed. We must make a strong plea for prompt operation in early cases, but at the same time they should be made to understand that no one can say at what hour a secondary focus may have become too firmly established to get well. It should also be explained that such a focus often becomes as much of a menace in distributing infection as the primary focus was in the beginning. Nevertheless, it should be made clear to them that all known and in urgent cases all suspected removable foci should be eliminated as early as possible because, if nothing else were accomplished, the patient's general resistance should be raised and his general health improved. Such frankness in the light of our present knowledge of focal infection should pay in the long run.

201 Humboldt Bldg.

DISCUSSION

DR. D. D. STOFER, Kansas City: Dr. Wood's paper on the subject that focal infection is being over-worked in the medical fraternity is quite timely. In

starting the discussion I wish to differentiate between allergic phenomena and focal infection. Focal infection can and does produce allergic phenomena such as is evidenced in rheumatic fever of the type that is so frequent in the East at this time of the year. One joint is swollen and suddenly another joint becomes swollen within a few minutes, which surely must be an allergic reaction in its strictest sense. One cannot conceive of an infection in a joint traveling to another joint and producing a marked swelling within a few minutes time.

I agree with him when he states that we must guard our prognosis far better when dealing with focal infection conditions. In some instances of focal infection it takes quite a while for a patient to recuperate after the focus has been removed and sometimes a miraculous result is obtained, such as the subsiding of an acute joint within two or three hours after the removal of an infected tooth; but in other instances it takes anywhere from a week to six months to get entirely over the condition for which the focus is removed.

As a further illustration, when one has a stump which is burning, the fire can be put out at a certain stage; and this applies likewise to focal infections which have done considerable damage to the heart, kidneys, etc. One can only hope to stop the damage. Regeneration will not take place in some instances. A reasonable patient will oftentimes see the logic of your argument if you will take the time to sit down and explain it to him. As a rule when focal infection has been of long standing it takes the patient a considerable length of time to regain his health after the removal of the focus of infection. Patients sometimes expect the doctor, as Dr. Wood has pointed out, to open an antrum or take out the tonsils and be well on the next day. This idea on their part should be corrected.

I do not know who has been at fault in creating such an impression with the people but as Dr. Wood has told us, explain conditions to the patient primarily and if the result is not obtained in two or three months they will be better satisfied. One has to use palliative measures while they are regaining their health gradually.

DR. V. V. WOOD, St. Louis, in closing: There are few remarks necessary in concluding, except that I hope I have made myself clear on this subject. What I tried to bring out is that we have been promising too much from operative treatment of focal infections in many instances and especially from a nose and throat standpoint. After a great many years we are now beginning to learn many new things about focal infections. I do not mean that there is anything wrong with the focal infection idea, understand. I have tried to bring out that the trouble has been with us. There has been too much misapplication and misunderstanding of the principles, the underlying or basic principles of focal infection activities. I do not wish any one to get the idea that I underestimate the importance of focal infection. It is still a big thing, but we have a great deal more to learn about it. We have been trying to crowd too much upon focal infection from an etiologic standpoint. We should now begin to realize that a great many inflammatory lesions are focal in nature or at least in the sequence of development of their manifestations and yet have nothing to do with infection. We must classify inflammatory focal lesions further than the focal infection group if we are to be eventually accurate. Metastatic cancers are focal lesions, but we do not

claim that they are infectious; at least they have not as yet been proven so. In other words we must look out for other focal types of lesions than merely the infectious group and many of them are acute and inflammatory.

SCAPHOID SCAPULA

A TABULATION AT THE MISSOURI STATE SANATORIUM FOR THE TREATMENT OF INCIPIENT TUBERCULOSIS*

HARDY A. KEMP, M.D.

MT. VERNON, MO.

In carrying out this work we followed as nearly as possible the methods of Dr. W. W. Graves whose extensive work has called attention to the hereditary, clinical, and anatomical significance of scapulae with the convex border and scapulae of the scaphoid type: those with the straight or concave vertebral border. We drew our idea for this investigation from Dr. Graves' conclusion published in the Osler Memorial number of "Contributions to Medical and Biological Research,"¹ which we quote: "If we accept as proven that nothing in the life of the individual after his birth can change the normal to the scaphoid type, then the age incidence of the scaphoid type of scapula points to the conclusion that many individuals possessing this anomaly are, in the broadest sense, the poorly adaptable, the peculiarly vulnerable, the unduly disease susceptible, the constitutionally inferior, the short lived individuals of the race."

Three of us have witnessed demonstrations by Dr. Graves himself of his method of examining and classifying the scapula. We also used as a guide the technic described in Dr. Graves' special article "Methods of Recognizing Scapular Types in the Living,"² which appeared in the July, 1925, number of the "Archives of Internal Medicine."

Our tabulations are on two hundred and eighty-two individuals having a diagnosis of tuberculosis. We omitted our nontuberculous patients because we felt that their small number held no comparative value with so large a number of definite cases of tuberculosis.

The first table (Table 1) is given in the form suggested as a standard by Dr. Graves.³ It is to be noted that the mixed types are divided by two and apportioned to the two different types, i. e., convex and scaphoid, both the straight and the concave being considered the scaphoid type.

*From the Staff Conferences at the Missouri State Sanatorium for the Treatment of Incipient Tuberculosis, Mt. Vernon, Mo.

Table 1. Summary Tabulation of All Cases

Age Period	Convex		Straight		Concave		Convex Straight		Convex Concave		Straight Concave		Not Class		Total	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
1-9	0		3	12	70	80	0	0	0	0	2	8	0		25	8.9
10-19	0		16	23.9	44	65.7	0	1	1	1.5	6	8.9	0		67	23.75
20-29	7	6.3	26	23.4	55	49.5	2	1.8	3	2.7	18	15.3	0		111	39.3
30-39	6	16	12	31.6	16	42.1	0		1	2.3	3	8	0		38	13.47
40-49	7	25	11	40	8	29	1	3	0		1	30	0		28	13.47
50-59	1	11.1	2	22.2	5	55.5	0		0		1	11.1	0		9	3.2
60-69	1	25	3	75	0		0		0		0		0		4	1.48
							3		5		31					
							2		2		2					
							1.5 CV		2.5 CV		15.5 CC					
							1.5 S		2.5 CC		15.5 S					
	22		73		148											
	1.5		1.5		2.5											
	2.5		15.5		15.5											
	26		90		166											
Per cent. of total	9.2		31.9		58.8										282	100
							SCAPHOIDS 90.8 Per cent.									
							CONVEX 9.2 Per cent.									

Taken as a whole our findings are those which might be expected, namely, that our patients being as a whole a collection of inherently weaker individuals physically, the percentage of scaphoid scapula among them runs considerably higher than the percentage for individuals of the same age who might be taken as the more or less healthy, every day run of folk. Specifically, two hundred and fifty-six, or 90.8 per cent., of our two hundred and eighty-two had scapulae of the scaphoid type. The remaining twenty-six, or 9.2 per cent., had convex scapulae. The average age of our patients falls in the second decennium of life. The per cent. of scaphoid scapula in this period is given in figures that vary from 52.4 per cent.³ to 57.8 per cent.³ and 59.4 per cent.³

Our second table (Table 2) offers a more exact comparison of the age incidence of scaphoid scapula here to the "normal" (and by normal we mean figures on more or less normal individuals). Certain tabulations here are rather striking. It will be seen at a glance that the above figure of 90.8 per cent. scaphoid is not determined altogether by one age group; rather, that this figure holds for practically the entire age groupings. Another remarkable point: We found only one convex scapula in the first two age periods (up to twenty years of age). This one convex scapula was found in a total of ninety-two patients. Here also we may say that the comparison of our figures in the first three age periods with that of the normal is most interesting. In these three groups we had two hundred and three patients—over two-thirds of the total—and over 90 per cent. of these were of the scaphoid type. Further, instead of the normal transposition of percentage in approaching the older periods the percentage of scaphoids held nearly the same. If due consideration is given the scarcity of scaphoids in the normal at these ages then our percentages

must even be above the remarkable abnormal of our younger patients.

We do not propose with this small amount of data to explain or theorize on this, the Graves phenomenon. We would, however, call attention to the striking way in which these findings agree with the quotation by Dr. Graves given above, that the scaphoid scapula predominates in the physically weaker individuals "—the peculiarly vulnerable, the unduly disease susceptible, the constitutionally inferior, the short lived individuals of the race."

It should follow then that in our twenty-six patients having convex scapulae we should find the minimal amount of tuberculosis. On the contrary we found eighteen and one-half of them (fractional number from mixed scapulae in one individual) or 71.1 per cent. to be far advanced cases, three and one-half, or 15.4 per cent., were moderately advanced and four, or 13.5 per cent., were minimal. Investigating further we found that of these far advanced cases sixteen and one-half, or 89 per cent., had a definitely positive family history of tuberculosis. Here we recall Dr. Graves'

Table 2. Comparison of Percentages With "Normal"

Age	No.	Our Cases Per cent.		Normal Per cent.	
		Convex	Scaphoid	Convex	Scaphoid
1-9	25	0	100	(1) 38.6	61.4
10-19	67	1/2 of 1%	99.5	(2) 20.0	80.0
				(3) 12.	88.0
20-29	111	8.5	91.5	(4) 18.5	81.5
30-39	38	21	79	(5) 47.6	52.4
40-49	28	26.9	73.3	(5) 54.9	45.1
				(3) 57	43
50-59	9	11.1	88.9	(2) 54	46
				(3) 64	36
60-69	4	25	75	(2) 61	39
				(3) 70	30
				(2) 70	30

REFERENCES IN TABLES

1. Kollert, V.: Necropsies at Instit. of Path. Anat. Vienna given by Graves in Arch. Int. Med. 34:14 with a "??" 1924.
2. Graves. *Ibid.*
3. Graves. Contrbs. to Med. and Bio. Research, 1919, pg. 528.
4. Weiss, W., Personal Communication to Graves given in Graves, Arch. Int. Med. 34:14. 1924.
5. Ball, J. D., Personal Communication to Graves. *Ibid.*

often repeated statement^{1 2 3} that his rule must not be applied too harshly. This small amount of data might also suggest that, whereas under ordinary circumstances a pair of convex scapulae is a fair assurance that longevity, hardihood, and resistance are accompanying attributes, in a tuberculous family it does not mean so much. However, we do not see all the family or families in these cases and it may be just as likely that these few cases are not representative of possible numbers of convex scapulae in tuberculous families carried by individuals thoroughly resistant to tuberculosis. Given in this connection, a brief tabulation of family history among the two types in our two hundred and eighty-two cases is as follows:

OF THE 26 CONVEX

17, or 65.4 per cent., had a positive F. H.
9, or 34.6 per cent., had a negative F. H.

OF THE 256 SCAPHOID

160, or 62.5 per cent., had a positive F. H.
90, or 35.1 per cent., had a negative F. H.
6, or 2.34 per cent., had a questionable F. H.
One hundred and fifty, or 58.6 per cent., of these scaphoid cases had a staff conference diagnosis of far advanced on admission, 41 or 16 per cent., were moderately advanced, forty-four, or 16 per cent., were minimal and twenty-one, or 8 per cent., were hilum.

OF THE 150 SCAPHOIDS THAT WERE FAR ADVANCED CASES

88, or 58.6 per cent., had a positive F. H.
56, or 37.3 per cent., had a negative F. H.
6, or 4.1 per cent., were questionable

OF THE 41 SCAPHOIDS THAT WERE MODERATELY ADVANCED

27, or 66 per cent., had a positive F. H.
14, or 34 per cent., had a negative F. H.

OF THE 44 SCAPHOIDS THAT WERE MINIMAL

37, or 84 per cent., had a positive F. H.
7, or 16 per cent., had a negative F. H.

OF THE 21 SCAPHOIDS THAT WERE HILUM TUBERCULOSIS

19, or 90 per cent., had a positive F. H.
2, or 10 per cent., had a negative F. H.

It is suggested here that the two factors, family history and scaphoid scapula, are found together more often than separately in "peculiar vulnerability."

We consider our data insufficient to offer any conclusions as to the relation of the degree of concavity to the degree of illness or stage of the disease. We therefore offer the following for what it may be worth. Of the one hundred and fifty scaphoids that were "far advanced" forty-seven were what we

called CC2 and CC3 (second and third degree of concavity) or generously concave. The remainder, of course, were CC1 or straight. Again, out of ninety-four CC2 and CC3 we found forty-seven "far advanced," twenty "moderate," nineteen "minimal" and eight "hilum." We feel safe in saying that in our twenty-six convex cases there is not one CV3. We called six of these CV2; the rest CV1.

SUMMARY

1. Of all patients at the Missouri State Sanatorium 90.8 per cent. had scaphoid scapula.

2. The percentage of scaphoid scapula in the various age groups was much higher than the percentage of scaphoid scapula in any normal group of individuals.

3. Family history and scaphoid scapula were found together in over two-thirds majority of these cases.

Missouri State Sanatorium.

REFERENCES

1. Graves, W. W.: The Age Incidence of the Scaphoid Type of Scapula, *Contribs. to Med. and Bio. Research*, July, 1919, pp. 525-532.
2. Graves, W. W.: Methods of Recognizing Scapular Types in the Living, *Arch. Int. Med.* **36**:51-61, 1925.
3. Graves, W. W.: The Relations of Scapular Types to Problems of Human Heredity, Longevity, Morbidity, and Adaptability in General, *Arch. Int. Med.* **34**:1-26, 1924.

DIAGNOSIS OF CHRONIC APPENDICITIS

GORDON A. BEEDLE, M.D.

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In considering the so-called chronic appendicitis to be theoretically correct, we imply a chronic state of inflammation. Inflammation, as we know, is only the reaction of tissue to irritation, namely, bacterial, chemical, or traumatic. An inflammatory process embraces the damage done to the tissue, the degree of repair to damaged tissue, the resulting fibrosis or scar tissue (resulting from repair), and the end disposition or end result of scar tissue or its influence upon surrounding tissue.

We may consider first an acute appendicitis due to infection, usually starting in the lymphoid tissue from direct invasion through mucosa or the circulation, followed by diffuse pain over the abdomen (which is a natural result from our knowledge of facts pertaining to inflammation, hyperemia and swelling), thus distending the walls of the appendix, stretching the tissue and irritating the sympathetic distribution therein, thereby causing the general pain and nausea. Varying degrees of destruction

follow, resulting in the destruction of nerve bearing tissue of the appendix. The localized pain and tenderness which follow are not from the appendix, but from adjacent intestines or parietal perineum. If peritonitis should follow the general pain results from the parietal nerves.

Now, from a clinical standpoint, what can we say constitutes a chronic appendicitis? Or can we scientifically use such a term as pathologically descriptive?

We must concede an acute infection of the appendix is accompanied with varying degrees of severity. We know that many an acute attack recovers without operation and years may pass without recurrence. On the other hand, we have no way of determining the extent of the pathogenic field except through clinical manifestations. As we have all degrees of tissue destruction, we must consider that many a case may go through a mild attack of acute infection with no professional care and with no more personal consideration than given to a simple attack of intestinal indigestion. We also know that it takes weeks or months for such a lesion to heal entirely, although clinical symptoms may have been short lived.

Now what of this infected tissue through the process of healing. All healing wounds are constantly subject to irritation until healed. Hence, if these facts are correct, there must be an accompanying degree of inflammation. Subject such a case to acute exacerbation and we should then classify the case as a chronic appendicitis. In other words, I do not believe that a recurrent appendicitis case definitely diagnosed as such is ever entirely free from varying degrees of inflammation. We can no more discard the possibility of chronic appendicitis than we can a chronic cholecystitis or a chronic salpingitis, nephritis, etc.

ADHESIONS RESULTING FROM AN ACUTE INFECTED APPENDIX

Adhesions may be temporary or permanent resulting from injurious effects, (chemical, bacterial, trauma), sufficient to damage the endothelial layer of the peritoneum. There exudes fibrin-forming material which agglutinates to surrounding tissue exposed to contact, resulting in what we call an exudate, and varies in extent according to the degree of insult to the tissue. This is, as all surgeons know, Nature's protective and defensive effort, and when encountered in operation, deserves the scien-

tific consideration and respect of all experienced surgeons.

In acute infection if the exudate, irrespective of extent, does not result in tissue-fibrin formation, Nature will absorb it in time, providing the cause be removed. But should damage occur following the removal of the cause or, in the absence of active inflammation, such tissue formation develops rapidly into organized tissue which is not absorbed, we then have the production of permanent adhesions.

Late consideration of adhesions which we must look upon as possible results from any degree of insult to the appendix sufficient to create an inflammatory state will establish temporary adhesions. We must concede that such adhesions if complete absorption does not take place, act in the form of splitting the cecal wall in accordance with the location of the adhesions. Assuming them to be parietal in nature, irrespective of the appendiceal involvement, we have established a fixed cecum. A fixed cecum as we know without going extensively into the subject, produces a multitude of sins.

WHAT IS THE BASIS OF THIS DISCUSSION?

1. A large number of patients have been operated upon for chronic appendicitis when examination of specimen does not reveal pathological changes sufficient to produce the symptoms complained of, and the postoperative record shows no relief of symptoms.

2. Evidence shows an abundant error in diagnosis through failure at thorough attempt at differential diagnosis.

In considering a diagnostic picture in chronic appendicitis, we cannot lean upon any classical syndrome as is presented in an acute attack as symptoms depend upon the degree of pathology present, or established complications.

The old age diagnosis based upon indigestion with tenderness over the appendix is properly looked upon now only as a suggestion upon which to start toward a true diagnosis. Tenderness over the appendix may be procured often by palpating a normal abdomen in a hypersensitive individual. Again, tenderness may be elicited by palpation of the cecum subject to stasis with no pathology present. Again, in colitis, or in the female with a sensitive ovary, normal or pathological, or adherent omental hernia, loose right kidney, a pyelitis, etc., and with all may be associated a misleading

history of indigestion, while chronic appendicitis may exist and show no tenderness on palpation.

Unfortunately located as the appendix is for undue insult, being at the gateway of the cecum, it is subjected thus to the most extensive concentration of bacteria of the intestinal area with increased liquid content, an area where contents chemically change from alkalinity to acidity, associated with increased pressure and antiperistalsis, we have abundant reason to lean toward the expectancy of appendix lesion either alone or associated with varying pathology, such as colitis, insufficiency of the ileocecal valve Lane's kink, fixed cecum, etc.

Hence in reviewing a differential diagnosis of the essential chronic lesions of the appendix, it becomes necessary to proceed through a general course of diagnostic elimination. In other words, prove to our satisfaction the absence of other conditions which may mislead us. Should the recurrent attacks be sufficiently severe, and the opportunity to observe them be given, naturally the diagnosis becomes more certain and easy.

Based upon the above points the essential point I wish to emphasize is: That in dealing with a chronic lesion of this nature we must accept the probability of a definite effort of Nature in the form of protective and preventive adhesions. I therefore conclude that the most staple, differential clinical findings of a chronically involved appendix, is a fixed appendix.

Therefore I should classify as a most important differential diagnostic symptom, and one that should never be omitted, the interfered motility of the cecum and appendix as demonstrated through fluoroscopy.

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CLINICAL DIAGNOSIS OF HUMAN INTESTINAL PROTOZOA

By Robert Hegner, Ph.D., of Baltimore, Md.

During the past ten years our knowledge of the intestinal protozoa of man has been revolutionized. Instead of diagnosing an intestinal infection as due to "monads," "cercomonads," "ciliated monads" or "flagellates" it is now possible to identify the organisms present without much difficulty. Some of the intestinal protozoa of man are apparently so rare that a physician would ordinarily never encounter them. Most of the individuals infected with protozoa are carriers and may remain infected for years. The various species are not antagonistic to one another, hence one person may carry two or more species at the same time. The diagnosis of intestinal protozoa requires the collection of fresh feces, dental scraping and urine. No positive diagnosis should ever be made without finding the protozoa

in the samples collected. Many species can in most cases be readily identified in the living condition, but in cases of doubt it is necessary to kill and stain the motile stages (trophozoites) or cysts. Wet smears are satisfactory when many specimens are present; but concentration and culture methods have been devised to aid in diagnosis when the protozoa are few in number. Serological tests have been suggested for the diagnosis of amebiasis but are not well enough worked out to be of practical use. Only three of the fifteen well-authenticated species of intestinal protozoa are known with certainty to be pathogenic to man—the amoeba, coccidium and the ciliate. Most persons with intestinal protozoa do not show symptoms. Diarrhoea and dysentery are the most frequent symptoms. Infections of the vagina or urinary tract may be accompanied by the presence of blood and abnormal conditions in the production of mucus. Oral diseases are frequently accompanied by infections with mouth-inhabiting protozoa. The diagnosis of these various diseases should always be made on the basis of the finding of the parasite rather than on the character of the symptoms.—*International Clinics*, December, 1927.

INSULIN THERAPY IN UNDERNOURISHED PSYCHOTIC PATIENTS: PRELIMINARY REPORT

The results obtained by Kenneth E. Appel, Clifford B. Farr and Harold K. Marshall, Philadelphia (*Journal A. M. A.*, June 2, 1928), in thirty-three cases indicate that insulin treatment properly controlled is a valuable adjunct in the treatment of certain critical cases of undernutrition in psychotic patients. The appetite and the amount of food intake were usually increased. There was usually a marked increase in weight. The dry, gray skin in most cases took on a healthy color and turgor. The effect of the treatment on the mental status is difficult of appraisal. In approximately 20 per cent. of the cases, definite improvement was observed. The special diet (including the extra lunches) which was given in all cases during insulin administration yielded approximately 4,000 calories, containing about 350 Gm. of carbohydrate. Dextrose for intravenous use, and orange juice for administration either by mouth or by nasal tube, were constantly kept on hand. All patients were under the continuous supervision of nurses who were familiar with the symptoms of hypoglycemia. Sixteen male patients were put on the routine diet for four weeks and made an average weekly gain, per patient, of 3 pounds (1.4 Kg.). Of the eleven patients in whom treatment was completed long enough to permit subsequent observation for four weeks, six gained over the weight at the end of the treatment, one remained stationary, and four lost. The increase was greater than the decrease, so that the weight gained was more than maintained. Each of thirteen female patients on the special diet alone for four weeks gained 9/10 pound (0.4 Kg.) weekly. In the following three weeks on the same diet plus insulin, they gained 24/10 pounds (1.1 Kg.) per patient weekly. One patient, not given the preliminary diet, gained 11 pounds (5 Kg.) in twelve days and showed considerable mental improvement. Three patients were given doses of insulin varying from 5 to 25 units daily for from two to eight weeks without any apparent result. In four cases the treatment had to be discontinued on account of symptoms of insulin intolerance, although in some of these cases the blood sugar did not reach low levels.

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EDITORIALS

THE CABOOL DEATHS—MILK SICKNESS OR POISONING

Milk sickness, or trembles, slows, tires, etc., as it is sometimes called, is defined by Osler as "a disease primarily of herbivorous animals, and transmissible to man or other animals feeding on the milk of infected individuals." Practically in man it is a disease produced by milk or milk products derived from cows suffering with this disease. It is characterized clinically by a severe toxemia, the progressively developing symptoms of which include nausea and vomiting, acetone odor of breath and cerebral symptoms which may terminate by death in coma within several days. Undoubtedly this disease is the unsuspected cause of serious poisoning and death in many rural communities. Poisoning in the city is rare because milk is so scattered and the poison so diluted with milk from various sources that it is practically harmless for this disease.

Milk sickness was known to the early French missionaries in the 18th century. It is said to have caused the death of Abraham Lincoln's mother. The first accounts in medical literature appeared in 1809-10. Numerous cases were reported from 1840 to 1850, then very little appeared until the reports and investigations in 1908 to 1914.

The diagnosis depends upon the history of poisoning, usually in several members of the family, and tracing the source of the milk and butter supply to cows that have had access to these poisonous plants. Cows should be tested by exercise for trembles, for milking cows seldom show any symptoms. The occurrence is during the late summer or fall, usually in the country. The vomiting, constipation, pain in the epigastrium, acetone odor, muscular weakness, normal temperature, together with negative laboratory findings, save for urine which shows albumin, acetone and diacetic acid, are characteristic of milk sickness. Finally all other causes of death must be excluded by complete bacteriological and chemical examination. Postmortem exam-

ination is helpful as autopsy shows extreme fatty degeneration of the kidneys, liver and heart, with absence of any other distinctive pathologic finding.

In the Cabool cases information is lacking on some of these points and therefore a final diagnosis has not been possible. Here again is an opportunity for work for a state pathologist as pointed out by the Missouri Association for Criminal Justice in its recent survey and referred to in a quoted editorial from the *St. Louis Post-Dispatch* in another part of this issue.¹

1. See page 491.

IMPORTANT SURVEY OF EYE CONDITIONS IN SCHOOL CHILDREN

A remarkably thorough study of eye conditions among school children has just been completed by the United States Public Health Service with findings of marked significance. Complete acuity and refractory examinations were made of 1860 white school children 6 to 16 years old. The group was not selected but taken as they came, hence the conclusions of the survey have a measure of validity in application to other American cities.

It is worth noting that the report of this survey is in striking contrast with the oft-quoted statement that 12 per cent. of American school children have defective vision. The actual percentage found among these Washington children was several times larger than that. Simple acuity test showed 34 per cent. defective and, with accommodation neutralized, 45 per cent. were found to require glasses for school work.

A result of importance which cannot be too strongly emphasized was the fact that a simple acuity test, without neutralizing the accommodation, disclosed only a fraction of the serious defects. This undoubtedly is something that should be drilled into parents and school teachers. Near-sightedness nearly always was shown up by tests with the simple Snellen chart, but far-sightedness was not. The Public Health Service pointed out that for this reason, if no other, the eyes should be examined only by a physician because optometrists, opticians and others are not legally empowered to use "drops" in the eyes to arrest accommodation.

The Washington survey disclosed that 60 per cent. of the children read the vision test chart without apparent defect, but when the accommodation was paralyzed 32 per cent. of these were found to be hypertro-

pic and therefore constantly strained their eyes in close work. Hyperopia, too, was by far the most common defect, showing in 63 per cent. of the children examined. Myopia affected 5.5 per cent. and astigmatism 28 per cent. These included even slight defects, but 45 per cent. of the children, as told above, needed immediate correction.

Nearly a fourth of those who were indicated to have standard vision or better before accommodation was suspended had only 30 per cent. vision or worse after accommodation was inhibited. Seven per cent. had 40 per cent. or less "before," and 43 per cent., or six times that many, had 40 per cent. or worse "after." Many of those in the group between standard and 75 per cent. vision "before" dropped to only 20 per cent. vision when the hidden defects were brought out by arresting accommodation.

Another result to bear in mind was evidence that myopia tends to increase rather sharply between the seventh and twelfth years. Careful observation should be kept on children to detect the beginning and growth of short-sightedness in this period. For this reason Surgeon General Cumming urged examination of school children at least twice a year.

This survey demonstrates that not merely 12 but probably as much as 40 per cent. of school children require some visual correction. The simple chart test of visual keenness is all right as far as it goes but it fails to disclose many cases of the most common defect, far-sightedness, which is causing enormous "leakage" of energy and possibly (though this is not an explicit conclusion of the survey) a tendency to neglect school work. Nearly a third of those children who come through the chart test with flying colors may be found, upon test with the accommodation neutralized, to be definitely far-sighted. Examinations should be made twice a year and they should be made by licensed physicians.

IMPORTANT SURVEY OF MORBIDITY

Results of the unique Hagerstown survey, the first of its kind anywhere, are being published by the United States Public Health Service in a volume more complete and detailed than any like study so far published in this country or abroad. Nearly 8000 white persons of all ages and conditions, a consummately representative group, were studied for two and a half years in Hagerstown, Maryland. Among the conclusions are:

Human beings are most free from illness between twenty and twenty-five years of age. More than half the sickness at every age is respiratory disease of some sort. Men are more subject to accident than are women throughout life. Women, despite longer average duration of life, are more often ill than men.

Surgeon General Cumming explained that previously the best index of the incidence and prevalence of most diseases was the mortality record which, since the fatality of various diseases greatly varies, is not very accurate. Statistics including non-fatal diseases were virtually confined to school ages. In order to supply these important needed data the Hagerstown general population group was studied continuously for thirty months. Experienced field assistants with the cooperation of local physicians recorded illnesses of all ages and both sexes and listed the cause in every case possible. The conditions of the survey indicate with what accuracy its conclusion can be applied generally to small cities in the Middle Eastern United States.

Illness, it was found, occurs most frequently in infancy and early childhood. The curve drops rapidly through late childhood and adolescence to its lowest point between the twentieth and twenty-fifth years, then rises gradually toward another high point in old age.

Aside from the predominance of respiratory diseases, especially the "common cold" which altogether caused more than half of all the illnesses recorded at all ages, sickness in childhood was caused chiefly by communicable diseases, such as measles, whooping cough, chicken-pox, diphtheria and scarlet fever; conditions of the skin, ears, eyes and teeth, and nervous and digestive disorders. The group of organic diseases of the circulatory and nervous systems of the kidneys take the lead of diseases other than respiratory at a later age.

Illnesses from all these causes are at their lowest incidence in adolescence and young manhood and womanhood. The only major causes of a higher sickness rate in young adults are puerperal conditions, which of course relate only to women. Venereal disease, typhoid and pulmonary tuberculosis have their highest incidence in young adulthood, but compared with other causes they do not result in a high sickness rate.

Boys under ten years of age were more often subject to infectious diseases, respiratory diseases, digestive troubles, colds and other respiratory conditions than girls of those ages, but over the entire life cycle women were more often ill than men.

With the beginning of adolescence the female rate of sickness climbs beyond the male

rate and remains higher throughout adult life, although the death rate for older women is lower than for men. Women suffer more than men from the common types of respiratory diseases, nervous and digestive diseases and kidney and heart conditions.

Frequency of accident is higher for men than for women at every age. The proverbial greater venturesomeness of boys showed in the fact that between the ages of five to nine years they suffered many more accidents than girls in the same period of life; in adolescence the sex difference grew less, but the accident rate of girls and women never exceeded that of boys and men.

CANDIDATES FOR STATE OFFICES

For the information of members we present biographical data of the candidates for some of the state offices to be voted on at the election in November. We make no attempt at predicting the probable attitude of the candidates toward legislation affecting the medical profession and the public health but a brief review is offered of the legislative record of those candidates who have held political offices.

HENRY S. CAULFIELD, REPUBLICAN CANDIDATE FOR GOVERNOR

Henry S. Caulfield, St. Louis, is a native of St. Louis and is a practicing attorney in his home city. His first political office of prominence was his election to Congress in 1906 from the Eleventh Congressional District, serving one term from 1907-1909. In 1909 Governor Hadley appointed him Excise Commissioner for the City of St. Louis, resigning this position in 1910, when Governor Hadley appointed him Judge of the St. Louis Court of Appeals, where he served to the end of his term in 1912, declining to run for election to the office. In 1921 he was appointed City Counselor of St. Louis by Mayor Henry W. Kiel, serving in this capacity until November, 1922, when he resigned to enter the private practice of law. His last public office was his appointment as a member of the Board to annex St. Louis County to the City of St. Louis, serving as chairman of the Board.

Judge Caulfield is one of the leading members of the legal profession in St. Louis and has been a faithful public servant in the various offices of trust he has held.

EDWARD H. WINTER, REPUBLICAN CANDIDATE FOR LIEUTENANT-GOVERNOR

Edward H. Winter, Jefferson City, was born in New Truxton, Mo., April 5, 1879. For many years he was editor and owner of the

Warrenton *Banner* but recently acquired the Jefferson City *Post-Tribune* which he edits. While a resident of Warrenton he was elected a member of the legislature from Warren County for the sessions of 1923, 1925 and 1927, and was elected speaker of the House of Representatives in the 1927 session. During his legislative career Mr. Winter always manifested a sympathetic interest in our attitude toward bills affecting the medical profession and public health.

STRATTON SHARTEL, REPUBLICAN CANDIDATE FOR ATTORNEY-GENERAL

Stratton Shartel, Jefferson City, is a resident of Neosho, Newton County. He is the present Attorney-General, having been appointed by Governor Baker in June, 1928, when Attorney-General Gentry was elevated to the Supreme Court. Mr. Shartel was at that time an assistant Attorney-General and a candidate for the office in the August primaries. He was nominated without opposition in his party. He has been prominent in Republican politics in the state among the younger element and is a past president of the Young Men's Republican Club. He has had no legislative experience.

FRANCIS M. WILSON, DEMOCRATIC CANDIDATE FOR GOVERNOR

Francis M. Wilson, Platte City, is a native of the town where he now resides and operates a large farm and practices law. His first public office was city attorney for Platte City. Later he was elected prosecuting attorney for Platte County, serving two terms, and in 1899 was elected to represent his district in the state Senate where he served with distinction for a number of years, and was elected president pro tem in 1913. He resigned from the Senate in 1913 to accept the appointment offered by President Wilson as United States District Attorney for the Western District of Missouri where he served for eight years. He was complimented at the end of his term by the Attorney-General of the United States on the conduct of his office, especially on his handling of the vexatious cases growing out of our entrance into the World War. In 1920 the United States District Court appointed him one of the receivers of the Kansas City Street Railways Company and he brought the receivership to a successful termination after serving for six years.

During his long service in the Senate Mr. Wilson proved himself a staunch supporter of organized medicine in all legislative matters affecting our Association or the public health. He is a brother of Dr. Robert P. C. Wilson, Platte City, a member of Platte County Medi-

cal Society and former superintendent of the Missouri State School at Marshall (formerly Colony for the Feeble-Minded).

FRANK G. HARRIS, DEMOCRATIC CANDIDATE FOR
LIEUTENANT-GOVERNOR

Frank G. Harris, Columbia, is a practicing attorney of Columbia, his home town. He was elected to the state Senate in 1914 from Boone County where he served eight years, from 1915 to 1923. He is a man of keen intellect and sound judgment and has always manifested a friendly attitude toward the organized medical profession when considering measures affecting the profession and the public health.

ELMER O. JONES, DEMOCRATIC CANDIDATE FOR
ATTORNEY-GENERAL

Elmer O. Jones, LaPlata, is a practicing attorney at LaPlata. He is a graduate of the Missouri State University and taught school for a while after graduating. He took a prominent part in organizing the Young Men's Democratic Club and was its first president. He was the choice of his party for Attorney-General in 1924 but was defeated in the November election. He is well known throughout the state as a public speaker and is often called upon to preside at public meetings and gatherings. He was a member of the legislature from Macon County in 1919 and supported measures that were advocated by our Association.

CANDIDATES FOR THE STATE SENATE

1st District, Atchison, Gentry, Nodaway and Worth counties.

Democrat. Marshall E. Ford, Maryville. Present incumbent from the District, elected in 1924. A practicing attorney in Maryville and a former member of the Constitutional Convention. He has a good legislative mind and gives intelligent consideration to all bills that affect the state as a whole or his constituency. He opposed the passage of the Chiropractic Bill in the last session and spoke against it on the floor of the Senate.

Republican. Edwin C. Curfman, Maryville. Previous legislative experience unknown. He is a brother of Dr. George H. Curfman, Salida, Colorado, President of the Colorado State Medical Society in 1927.

3rd District, Andrew and Platte counties.

Democrat. Bayliss T. Gordon, Liberty, present incumbent, is a farmer and lawyer. Was elected to the House of Representatives from Clay County in 1914 and 1916 and was elected to the state Senate in 1920 and 1924 and is now a candidate for a third term. In the 1923, 1925 and 1927 sessions he was a member of the Public Health Committee. He

has always taken an active part in the support of sane medical legislation.

Republican. No nominee.

5th District, Kansas City.

Democrat. M. E. Casey, 423 Gladstone Boulevard, Kansas City. Senator Casey is the dean of the legislature. He has been a member continuously for twenty-five years having been elected to the House of Representatives in 1902, 1904 and 1906 and was elected to the state Senate in 1908 and is now a candidate for the sixth consecutive time. He is a vigorous member and is active on the floor at all times and from his long experience he can easily detect defects or jokers in bills. He is ever ready to champion a cause that he thinks is right or attack a measure when the rights of the people of the state seem to be invaded.

Republican. Robert M. Chambers, 3035 Independence Avenue, Kansas City. Previous legislative experience unknown.

7th District, Kansas City.

Democrat. Wallace Sutherland, 5723 Oak Street, Kansas City. Previous legislative experience unknown.

Republican. Manvel H. Davis, Continental Building, Kansas City. Practicing attorney. He was a member of the House of Representatives from Jackson County, 10th District, 1925 to 1927, and voted for the amendments to the Medical Practice Act approved by our Association.

9th District, Adair, Macon and Shelby counties.

Democrat. Frank P. Briggs, Macon. Newspaper editor. No previous legislative experience.

Republican. No nominee.

11th District, Audrain, Lincoln and Pike counties.

Democrat. Derwood E. Williams, Troy. Practicing attorney. Former prosecuting attorney, Lincoln County, 1919 to 1923. Member of the House of Representatives in 1927 from Lincoln County. Voted for the amendments to the Medical Practice Act approved by our Association.

Republican. No nominee.

13th District, Ralls, Randolph, Marion and Monroe counties.

Democrat. James H. Whitecotton, Paris. Practicing attorney in Central Missouri. A veteran member of the legislature. First elected to the House of Representatives thirty-five years ago. Served for twelve years in the House. Was speaker for two terms. Elected to the Senate in 1920 and 1924. He is a champion of high medical standards and all progressive medical legislation. Opposed the passage of the Chiropractic Act last session and was one of the members of the Senate who signed a

protest to Governor Baker against the signing of the bill.

Republican. No nominee.

15th District, Benton, Hickory, Pettis and Saline counties.

Democrat. Robert Lee Hains, Slater, banker and farmer. Member of the House of Representatives from Saline County 1921 and 1923. Led the fight on the floor of the House in 1921 against removing the word "reputable" from the Medical Practice Act and was active during the 1923 session in having the word restored. He is a good speaker and takes an active interest in all measures that affect the welfare of the people.

Republican. Irvin Bringes, Sedalia. Previous legislative experience unknown.

17th District, Cass, Johnson and Lafayette counties.

Democrat. James H. Russell, Jr., Chilhowee. Engaged in farming in Johnson County. Member of the House of Representatives from Johnson County in 1923, 1925 and 1927. Voted to restore the word "reputable" to the Medical Practice Act in the 1923 session. Also voted for the amendments to the Medical Practice Act in the 1927 session.

Republican. No nominee.

19th District, Christian, Dallas, Douglas, Ozark, Polk, Stone, Taney and Webster counties.

Democrat. Willie Lee Hixson, Ozark. Previous legislative experience unknown.

Republican. John C. Harlin, Gainesville. Previous legislative experience unknown.

21st District, Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Ripley and Wayne counties.

Democrat. Russell L. Dearmont, Cape Girardeau. Lawyer. Previous legislative experience unknown.

Republican. Byron Kearbey, Poplar Bluff. Previous legislative experience unknown.

23rd District, Mississippi, New Madrid, Pemiscot, Scott and Stoddard counties.

Democrat. Ralph Wammack, Bloomfield. Present incumbent, elected in 1924. Member of the Constitutional Convention and former prosecuting attorney for Stoddard County. Member of the Public Health Committee in 1925 in the Senate and opposed the Chiropractic Bill in committee and on floor of the Senate. Senator Wammack has consistently supported measures safeguarding the Medical Practice Act and the protection of the health of the people.

Republican. No nominee.

25th District, St. Louis, Gasconade and Franklin counties.

Democrat. No nominee.

Republican. Richard F. Ralph, Valley Park. Lawyer. Present incumbent, elected in 1920 and 1924. Minority floor leader in the 1927 session. Voted for the Medical Practice Act in the 1925 and 1927 sessions although he was one of the principal supporters of the bill removing the word "reputable" from the Medical Practice Act in 1921.

27th District, Cole, Laclede, Maries, Miller, Osage and Pulaski counties.

Democrat. Phil M. Donnelly, Lebanon. Lawyer. Present incumbent, elected in 1924. Was a member of the House of Representatives in 1923 from Laclede County. Voted to restore the word "reputable" to the Medical Practice Act in 1923. Has always supported progressive medical legislation in the Senate.

Republican. W. C. Irwin, Jefferson City. Lawyer. Member of the state Senate in 1921 and 1923. Was active in having the word "reputable" stricken from the Medical Practice Act in the 1921 session and fought against its restoration in 1923. Was defeated for the state Senate in 1924 by Democratic opponent.

29th District, St. Louis City.

Democrat. No nominee.

Republican. Frank B. Warner, 3321 California Avenue, St. Louis, is a native St. Louisian. He was elected to the House of Representatives from the 1st St. Louis District in 1906, 1908 and 1910. In 1912 he was elected to the state Senate and has been a member ever since. He has the unique record of having introduced but one bill during his entire membership in the legislature. He takes the position that there are too many laws now on the statute books.

31st District, St. Louis City.

Democrat. Michael Kinney, St. Francis Hotel, St. Louis, was born and educated in the district he now represents. He is engaged in the practice of law and the real estate business. He was elected to the Senate in 1912 and has been reelected every four years since then. During all his years in the Senate he has been the friend of the medical profession and has been uncompromising when attempts have been made to lower the standards of the profession in this State. In the 1927 session he was the author of the bill that provides for the care and treatment of crippled children in the University Hospital at Columbia.

Republican. Ben O. Wheeler, 14 North 18th Street, St. Louis. Legislative experience unknown.

33rd District, St. Louis City.

Democrat. Joseph H. Brogan, 1916 Warren Street, St. Louis, lawyer, was born and educated and has lived all his life in the district he now represents. He was first elected to

the Senate in 1908 and has been a member continuously ever since then, being one of the oldest members in point of service. During his twenty years as a member of the Senate he has always advocated and voted for progressive public health measures and cooperated with the organized medical profession in keeping up the high standard of medical practice. He was the author of the bill that restored the word "reputable" to the Medical Practice Act in 1923. For the past six years he has been chairman of the Public Health Committee in the Senate. During all his legislative career we have learned to depend upon him for intelligent and sympathetic cooperation on measures that required the attention of our Association.

Republican. Henri Chouteau, 26 Vandeventer Place, St. Louis, is a native St. Louisian and is engaged in the real estate business. He was elected to the legislature in 1924 from the 4th District. In 1926 he was the Republican candidate for Congress in the 11th District but was defeated in the election of that year. As a member of the House of Representatives of 1925 he opposed the Medical Practice Act and joined with the opponents of the medical profession in the defeat of the measure after the bill had passed the Senate unanimously by a vote of 29 to 0.

TEMPEST IN A PIEPAN

A tempest in a piepan subsided at Kansas City, August 22, when Health Director E. W. Cavaness returned from the American Public Health Association meeting in San Francisco and diagnosed an epidemic of "food poisoning" as public hysteria, with "rackets" as a complication.

Not rickets; rackets—a disease characterized by itching palms and a desire to go to court, or resort to more direct means to soothe the itch. Consummating these measures is informally known as "racketeering," and the person suffering from the disease is sometimes called a "racketeer."

Probably 100 cases of "food poisoning" were reported during the "epidemic." About 25 suits were filed against bakers, accusing them of selling impure food, especially in the cream pies. One woman who was both poor and pregnant had called in the physician who was to attend her in confinement. She had gastroenteritis. She had eaten part of a bakery pie. The physician promptly made a diagnosis of food poisoning and wrote out a bill for \$25 for the one call.

Dr. Cavaness made an unexpected call on the physician and pointed out that he had failed to report this case to the police and health depart-

ments. The Doctor at once admitted the case was not food poisoning, but that he believed a diagnosis of that sort and a bill for \$25 would immediately extract this sum from the baker, especially in view of the current wave of publicity and lawsuits.

Dr. Cavaness found that there had been a few actual cases of food poisoning, but that the inspectors and laboratory had been very vigilant and most of the many reported were cases, rather, of "rackets." His diagnosis was supported by the fact that no cases were reported after his investigation. We submit that, although investigation would have little effect on food poisoning, it might logically be expected to have precisely the effect indicated on "rackets."

A word remains to be said of the physician whose conscience was so shabby that he sought to make up a \$25 obstetrical fee by a false diagnosis and a baseless claim. The memory probably will be cinchona to his palate and asafetida to his nostrils for many nine-months to come. We hope it will be bitter and rank enough to inhibit a recurrence of this quaint modern disease. And we rejoice to point out that he is only one among 6000 physicians in Missouri, and we trust, as the past indicates, that he is about the only one who would take advantage of his professional knowledge to connive in a fraud upon business people.

NEWS NOTES

Dr. Lynn N. Hershey, Kansas City, will leave from Philadelphia, October 1, 1928, for Europe where he intends taking postgraduate courses. He will be gone four or five months.

Dr. John N. McGrath, St. Louis, who has been associated with Dr. Emmett P. North for the past six years in the practice of ophthalmology, sailed for Europe on September 13 where he intends making an intensive study of the eye in the clinics of Vienna and other European medical centers. He will return to his present offices in about one year.

State Hospital No. 2, St. Joseph, recently entertained 600 of the inmates at a performance of the Ringling Brothers and Barnum and Bailey Circus held in St. Joseph. Ten street cars were needed to convey the 250 men and 350 women to the circus grounds. The management of the circus arranged a special entrance and provided a separate section for the patients who were orderly and enjoyed the performance throughout. All returned to the hospital without a mishap or an escape.

Dr. Jesse D. Cook, Kansas City, recently returned from Vienna where he studied and attended postgraduate courses. He will resume his practice at 1018 Medical Arts Building.

The annual meeting of the Southwest Missouri Medical Society will be held at Springfield, Thursday and Friday, November 1 and 2. Headquarters will be at the Kentwood Arms and all meetings will be held on the roof garden of that hotel.

For the second time in two weeks, Dr. Charles L. Moeller, East St. Louis, who is 66 years old and nearly blind, on August 27 was held responsible for a woman's death following abortion. This was in the death of Miss Gladys Hodson, 21, East St. Louis. At the inquest he denied knowledge of the case. At the inquest over Mrs. Lucy Bercevic a few days previously he had freely discussed his relation to Mrs. Bercevic's case.

The Adams County Medical Society is arranging for one of their most important and outstanding medical meetings of the year to be held at Quincy, Illinois, on October 15. Several leading professors from Northwestern University Medical School, Chicago, will put on a program of exceptional interest to the general practitioner. There will be papers on obstetrics, fractures, heart disease, and infections of the hand. The meeting will begin at nine o'clock, Monday morning, October 15, and will continue throughout the day. A special luncheon will be served at noon and a banquet will be given in the evening.

A \$50,000 trust fund to be divided between St. Louis Children's Hospital and Washington University was provided in a codicil to the will of Joseph D. Bascom, St. Louis rope manufacturer, who died August 5. His son, Charles E. Bascom, was named trustee with authority to distribute the trust "In the manner and proportion which in his judgment at the time of the distribution will most faithfully represent the institutions' respective usefulness to this community and at the same time their respective financial needs."

He may distribute the fund all at once or from time to time, to either or both institutions, and if one of the institutions ceases to perform a useful function in the community as a charitable or educational organization or if its financial needs have been provided for out of other sources he may exclude it from substantial participation in the distribution.

The next meeting of the State Board of Health for the examination of applicants to practice medicine will be held at the Jefferson Hotel, St. Louis, October 23, 24 and 25, 1928.

Dr. John S. Knight, Kansas City, assistant superintendent of the Kansas City General Hospital has resigned, effective October 31. He will go to Philadelphia where he contemplates taking a postgraduate course in eye, ear, nose and throat diseases. Dr. Knight entered the hospital as an intern in 1925, was appointed night superintendent in 1926 and later became assistant superintendent.

About 70,000 persons visited a health exhibit train, organized by the Missouri Pacific Railroad, which stopped at 115 towns and traveled 2500 miles recently in a month's tour of Texas. A model dairy farm and miniature pasteurization plant were displayed in one exhibit car. The train included another exhibit car and two lecture cars for the staff of 12 to 15 physicians, sanitary engineers and technicians. Personnel and exhibit material were provided by Texas and federal health agencies, local physicians and the U. S. Public Health Service.

The Inter-State Post Graduate Association of North America extends a cordial invitation to all physicians in good standing to attend the International Assembly of the Association at Atlanta, Georgia, October 12-19, 1928. There will be diagnostic clinics and didactic presentations, clinical programs, scientific and technical exhibits. Special intermissions in the scientific program will permit guests to visit the exhibit halls. The Atlanta Biltmore Hotel has been selected as the hotel headquarters, where all medical men and women in good standing in their county societies are privileged to register. Hotel reservations can be made direct with the hotel or through Dr. Marion C. Pruitt, local chairman of the Hotel Committee, 421 Wynne-Claughton Building, Atlanta. Special reduced rates on the certificate plan, fare and one-half for the round trip, have been granted to physicians and their wives by all the railroad passenger associations of the United States and Canada. Among those on the program from Missouri are, Dr. Thomas G. Orr, Kansas City, who will address the meeting on "Recent Advances in the Treatment of Intestinal Obstruction"; Dr. William W. Graves, St. Louis, who will talk on "A Useful Syndrome in the Clinical Recognition of the Syphilitic," and Dr. Elsworth S. Smith, St. Louis, who will speak on "Cardiolysis for Chronic Mediastinopericarditis." Dr. Frank G. Nifong, Columbia, is a member of the Advisory Committee.

The Medical Association of the Missouri Valley will meet in Omaha, October 30 and 31 and November 1. An effort is being made to reorganize this worthy society to meet the demands of changing conditions. The county societies, hospital staff meetings and the state societies provide opportunities for the presentation and discussion of case reports and didactic papers. Many have expressed the belief that there is a place for a society whose activities are primarily educational and whose programs shall consist largely of original work of the moment presented by the investigators in person, and of clinics given by master teachers in medicine. The program offered for the Omaha meeting fulfills these requirements. Among those who will address the Association are the following: Dr. Vernon C. David, Associate Clinical Professor of Surgery, Rush Medical College, Chicago; Dr. Leonard G. Rowntree, the Mayo Clinic, Rochester; Dr. P. C. Jeans, Professor and Head of the Department of Pediatrics, University of Iowa, Iowa City, Iowa; Dr. P. T. Bohan, Professor of Medicine, University of Kansas, Kansas City, Missouri; Dr. Frank D. Dickson, Kansas City, Missouri; Dr. Russell L. Haden, Professor of Experimental Medicine, University of Kansas, Kansas City, Kansas; Dr. M. L. Harris, President-Elect of the American Medical Association, Chicago; Dr. James F. McDonald, Professor of Physiology, Creighton College of Medicine, Omaha, Nebraska; Dr. Clifford G. Grulee, Clinical Professor of Pediatrics, Rush Medical College, Chicago; Dr. A. W. Proetz, Assistant Professor of Otology and Laryngology, Washington University, St. Louis; Dr. Earl C. Padgett, Kansas City, Missouri.

Several St. Louis physicians have reported experiences with what they believe, after paying \$25 initiation fee in the "Benevolent Order of Organized Workers" and hearing nothing further from the order, bears some of the earmarks of being a new version of an old "racket." In each case a young man who said his name was Epstein, with another young man who called himself Hines, called on the physician and offered an appointment as medical examiner for the "Benevolent Order." Prospects of examination fees and new contacts leading to much family practice were pointed out. But to receive the appointment the doctor must join the order and pay the solicitors \$25.

Four or five physicians signed up and paid up. Some days later none had heard again from the Order or the solicitors. They were unable to get in touch with them, since the solicitors had omitted to give either the Order's

or their own address. The physicians, however, did have the address of the St. Louis Better Business Bureau and promptly got in touch with it. The solicitors' visits had occurred several days prior to August 28, on which date the Better Business Bureau notified our State Secretary and asked him to pass the word out to the membership, which was done.

This is the second probable instance of a "racket" coming to hand in one month. The other was that of a Kansas City physician who took advantage of a wave of public hysteria to diagnose a case of gastro-enteritis as food poisoning, in order to collect a \$25 fee by scaring it out of a baker. This balances perfectly: one "racket" by a member of the profession and one "racket" perpetrated upon the profession—even the amounts balance, \$25 in each case.

It is of great moral comfort to us, though of little financial profit, that the balance is rarely so perfect. Rarely indeed do the number of "rackets" perpetrated by members of the profession rise to the number of those perpetrated upon the profession. In fact, whereas the ease with which those of a practical if not mercenary bent can mulct physicians has become a tradition, we are glad to point out that it is a strange day when an M.D. connives at a fraud upon business people. And it may be a lesson to others, in the unlikely event that there be others who might be so tempted, that this doctor—this one "racketeer" among the 6000 physicians in Missouri—was unable to put over his fraudulent scheme. Another doctor caught him.

The following articles have been accepted for New and Nonofficial Remedies:

Abbott Laboratories

Tablets Ephedrine Hydrochloride—Abbott,
1/4 grain

Deshell Laboratories, Inc.

Petrolagar (Unsweetened)

Mead Johnson & Co.

Mead's Standardized Cod Liver Oil,
Flavored

Parke, Davis & Co.

Glaseptic Ampoules Ephedrine Sulphate—
P. D. & Co., 0.05 Gm. (3/4 grain), 1 cc.

Capsules Ephedrine Sulphate—P. D. & Co.,
0.05 Gm. (3/4 grain)

Paroidin

Prophylacto Mfg. Co.

Capsules Ephedrine Hydrochloride—Pemco,
0.3 Gm.

Capsules Ephedrine Hydrochloride—Pemco,
1/4 grain

E. R. Squibb & Sons

Squibb's Vitavose

Swan-Myers Co.

Gentian Violet Capsules—Swan-Myers, 1 grain

Chicago Dietetic Supply House

Cellu Soy Bean Flour

Cellu Soy Crisp

Mead Johnson & Co.

Mead's Powdered Boilable Lactic Acid Milk

Parke, Davis & Co.

Cotton Protein Extract Diagnostic—P. D. & Co.; Cottonseed (Cake) Protein Extract Diagnostic—P. D. & Co.; Goat Hair Protein Extract Diagnostic—P. D. & Co.; Human Hair Protein Extract Diagnostic—P. D. & Co.; Kapok Protein Extract Diagnostic—P. D. & Co.; Peptone Protein Extract Diagnostic—P. D. & Co.; Poplar Pollen Protein Extract Diagnostic—P. D. & Co.; Sunflower Pollen Protein Extract Diagnostic—P. D. & Co.; Sweet Vernal Grass Pollen Protein Extract Diagnostic—P. D. & Co.

Abbott Laboratories

Potassium Bismuth Tartrate with Butyn—D. R. L., 20 cc.

Parke, Davis & Co.

Scarlet Fever Streptococcus Toxin for Skin Test—P. D. & Co.

E. R. Squibb & Sons

Ephedrine Hydrochloride—Squibb

Swan-Myers Co.

Syrup Ephedrine Hydrochloride—Swan-Myers

examining physician during the last few years. He was a member of the Jackson County Medical Society, a Fellow of the American Medical Association and a devout member of the Baptist Church.

In 1897 Dr. Fields was married to Ottielee Harrell, of Platte City, Missouri. They had one child, Maryruth, now Mrs. Tom Douglas Jones, of New York, and one grandchild, Douglas Tom Fields Jones. He had seven sisters and four brothers, all living except one sister.

The class of 1894 of the Kansas City Medical College was composed of thirty-five members, the survivors of which have met annually since leaving their alma mater. There are now fourteen of the class living, of whom seven, including Dr. Fields, attended the reunion March 20, 1928. Since that date Dr. O. C. Thomas, of Spring Hill, Kansas, and Dr. Fields, are gone. During 1927 Dr. Thomas W. Overall and Dr. Edward L. Chambliss, of Kansas City, died. The class was remarkable for the affection and sympathy of its members and Dr. Fields was always held in highest esteem by his confreres.

THE NECROLOGY COMMITTEE,
Jackson County Medical Society.

HENRY WILLIAM HERMANN, M.D.

Dr. Henry W. Hermann, St. Louis, a graduate of Jefferson Medical College, Philadelphia, 1878, died August 18, 1928, of pneumonia, aged 73.

Dr. Hermann was born at Hermannsburg, Arkansas, June 9, 1855. His father was of that sturdy group of German patriots who fled from the Politinate in 1848 after the failure of the Revolution, a group which has contributed many of our leaders in America. The Civil War destroyed the village of his birth and at the age of ten years Dr. Hermann came with his parents to St. Louis. He was educated in the public schools of that city and read law with Finkelnburg and Rassieur. Later he studied and graduated in dentistry in Philadelphia. Finally he chose medicine for his career and graduated from medical college at the age of 23. He studied three years at Heidelberg, Vienna, Berlin and London, and returned to St. Louis to practice neuropsychiatry and to teach in the Missouri Medical College (now Washington University Medical School) and the Postgraduate School. In June, 1887, he was appointed at St. Vincent's Institution and remained in the service until shortly before his death.

Dr. Hermann was a cultured gentleman of the old school and won many friends. He held an honored place in the field he selected for culti-

OBITUARY

THOMAS FIELDS, M.D.

Dr. Thomas Fields, Kansas City, a graduate of Kansas City Medical College, 1894, died at St. Mary's Hospital, Kansas City, August 4, 1928, of carcinoma of the sigmoid flexure of the colon, aged 61.

Dr. Fields was born July 27, 1867, near Louisville, Kentucky. His father, Robert Miller Fields, and family moved to Missouri when Dr. Fields was six years old, and settled on a large farm near Lees Summit.

After receiving his medical degree at the Kansas City Medical College, Dr. Fields took postgraduate courses at the College of Physicians and Surgeons, Columbia University, New York. He practiced medicine in Hampton, Missouri, for six years, moving to Kansas City in 1900, and for nineteen years he was on the surgical staff of St. Mary's Hospital, Kansas City. He was connected with the Gillis Orphans' Home for fourteen years, acting as

vation and was very generous and courteous to his fellows who profoundly regret his passing. Surviving are his widow and two daughters.

WILLIAM CHARLES WEST, M.D.

Dr. William C. West, Kansas City, a graduate of Kansas City Medical College, 1903, died at his home August 16, 1928, following a stroke of paralysis, aged 48. He was seized at six o'clock in the morning as he was preparing to go to his office and passed away three hours later. He had been suffering with a slight attack of nephritis.

Dr. West was prominent in the medical profession of his native city. He was a member of the Jackson County Medical Society and the Kansas City pension board. He was a former police surgeon and a candidate in the primary for the Republican nomination for county coroner. He was surgeon for the Columbia Steel Tank Company since 1922 and at one time local physician for the Kansas City Fire Department. He is survived by his widow, two daughters and three sisters.

WILLIAM E. JOHNSON, M.D.

Dr. William E. Johnson, Belle, a graduate of Barnes Medical College, St. Louis, 1901, died March 16, of tuberculosis, aged 54.

Dr. Johnson was born December 26, 1873, and received his early education in the public schools of Vichy, Missouri. After graduating from medical school he located at Lois, Missouri, and practiced there until 1911 when he moved to Belle. He was a faithful member of the Gasconade-Maries-Osage County Medical Society, having served as president in 1926, 1927 and 1928. In 1925 he was elected censor. He was local surgeon for the Chicago, Rock Island and Pacific Railroad Company.

NICHOLAS JOHN PIPPERT, M.D.

Dr. Nicholas J. Pippert, St. Louis, a graduate of Barnes Medical College, St. Louis, 1908, died August 18, 1928, aged 47.

Dr. Pippert was a member of the St. Louis Medical Society and the State Association. He had given up the practice of medicine some time ago.

PARK LEWIS McDONALD, M.D.

Dr. Park L. McDonald, Kansas City, a graduate of University Medical College of Kansas City, 1889, died June 8, 1928, aged 66.

Dr. McDonald was a member of the Jackson County Medical Society and a Fellow of the American Medical Association.

JUSTICE FAILS IN FRANKLIN COUNTY

The Franklin County poison cases are a well-nigh incredible example of the breakdown of county justice. Over a period of 18 years Mrs. Bertha Gifford has been playing her role as volunteer nurse, and in that time 17 men, women and children have died suddenly following her ministrations. The last suspicious death occurred in May, 1927. Only within the last few weeks has the law begun to perform its function of investigating and punishing what looks like wholesale murder. Mrs. Gifford is in jail and has confessed feeding arsenic to three of her deceased "patients."

Perhaps the primary cause of this situation lies at the door of the physicians called in to attend Mrs. Gifford's cases. These physicians, through timidity, lack of initiative and "neighborly feeling," failed to divulge their suspicions to the authorities. They issued death certificates in the cases with such notations as "acute gastritis, cause unknown," and other vague and meaningless phrases. They failed to insist upon post mortem examinations. It has been a lamentable exhibition of professional cowardice and neglect of duty.

Mrs. Gifford's career and the happenings at the so-called house of mystery have been the subject of widespread gossip for years. The law officers of the county must have known of the suspicions that had been raised against her. In default of action by the doctors, why did not the county authorities investigate? It is true Prosecutor Jenny last year presented the case to the grand jury, but failed to produce evidence warranting an indictment. Where was the Coroner, whose duty is primarily the investigation of suspicious deaths?

Admittedly, it is difficult in a country community to get neighbors to testify against one another. This feeling was especially strong apparently around Cat-awissa. Nevertheless, if the county authorities had demanded a single post mortem in these poison cases, it no doubt would have adduced evidence upon which a prosecution could have been based. Under those circumstances, with a tangible charge placed against Mrs. Gifford, the spell would have been broken, as it is now.

The Gifford case calls attention once again to a much-needed reform suggested by the Missouri Association for Criminal Justice in its recent survey of the administration of criminal justice in Missouri. The survey showed that the office of Coroner has become a useless part of the governmental machinery of this State. Coroners are not required to be physicians, although medical knowledge is essential for the proper performance of their tasks. They have been notably remiss, careless and valueless in the investigation of violent death. The association proposed the office be abolished entirely as it has been in Massachusetts and New York City. Pending such abolition, the office should be shorn of certain of its functions, these to be vested in a medical examiner. The examiner should be paid well enough to draw to the service expert pathologists. There should also be a State pathologist who would co-operate with the county medical examiners.

If such a system had been in force in Missouri it would not be necessary now for Dr. James Stewart, State Health Commissioner, to engage in the difficult task of disinterring bodies buried for years to determine cause of death.—St. Louis *Post-Dispatch*.

RECENT LICENTIATES TO PRACTICE IN MISSOURI

The following applicants for license to practice in Missouri were examined by the State Board of Health, July 17, 18, 19, 1928, and received licenses to practice:

<i>Name</i>	<i>School</i>	<i>Address</i>
Altfather, Ellis McFerrin.....	St. Louis University, 1928.....	St. Louis
Arneson, Norman	Washington University, 1928.....	St. Louis
Austin, Lloyd Crockett.....	St. Louis University, 1928.....	St. Louis
Bagley, Frank Albert.....	University of Illinois, 1927.....	Kansas City, Mo.
Baron, Michael Emanuel.....	St. Louis University, 1928.....	St. Louis
Barrett, Ralph Michael Sylvester.....	St. Louis University, 1928.....	St. Louis
Bell, Robert Malseed.....	St. Louis University, 1928.....	St. Louis
Bergman, Hugo Fred.....	St. Louis University, 1928.....	St. Louis
Bonner, Robert Forrest.....	St. Louis University, 1928.....	St. Louis
Bowdern, Edward Hardy.....	St. Louis University, 1928.....	St. Louis
Boyd, Olin Blackburn.....	St. Louis University, 1928.....	Maplewood, Mo.
Davis, Arthur Glenn.....	St. Louis University, 1928.....	St. Louis
Droege, Edward Henry.....	St. Louis University, 1928.....	Granite City, Ill.
Duffy, Ray Martin.....	St. Louis University, 1928.....	St. Louis
Egley, Loren Edward.....	St. Louis University, 1928.....	St. Louis
Ehlers, Charles William.....	St. Louis University, 1928.....	St. Louis
Eigel, Edwin George.....	St. Louis University, 1928.....	St. Louis
Elkins, Ronald Flagg.....	Washington University, 1928.....	St. Louis
Engman, Martin Fenney.....	Washington University, 1928.....	St. Louis
Fischer, Stanley Samuel.....	Washington University, 1928.....	St. Louis
Gallery, Daniel Francis.....	St. Louis University, 1928.....	St. Louis
Gammon, Claude Orlando.....	St. Louis University, 1928.....	St. Louis
Goldman, Lawrence Eddy.....	Washington University, 1928.....	Nashville, Tenn.
Guenther, Leo Joseph.....	St. Louis University, 1928.....	St. Louis
Hale, Ardie Emile (Colored).....	Meharry Medical College, 1927.....	St. Louis
Hampton, Oscar Perry.....	University of Tennessee, 1928.....	St. Louis
Hanretta, Aloysius Thomas.....	St. Louis University, 1928.....	Washington, D. C.
Harrison, Lee Bullen.....	Washington University, 1927.....	St. Louis
Heger, Frank Ferdinand.....	St. Louis University, 1928.....	St. Louis
Heimbecker, Peter.....	McGill University, 1928.....	St. Louis
Higi, Joseph Edward.....	St. Louis University, 1927.....	St. Louis
Hobbs, John E.....	Washington University, 1927.....	St. Louis
Hotz, Carl Julius.....	University of Illinois, 1928.....	St. Louis
Howard, Laurence Laury.....	Washington University, 1928.....	St. Louis
Husted, George William.....	St. Louis University, 1928.....	Overland, Mo.
Jean, J. Ted.....	Washington University, 1928.....	St. Louis
Johnstone, Paul Nugent.....	Johns Hopkins University, 1928.....	Kansas City, Mo.
Kane, Richard Charles.....	St. Louis University, 1928.....	St. Louis
King-McGill, Cecelia Antonia.....	Marquette University, 1928.....	St. Joseph
Kountz, William Bryan.....	Washington University, 1928.....	St. Louis
Kramer, Frederick Andrew.....	St. Louis University, 1928.....	St. Louis
Leonard, Thomas.....	St. Louis University, 1928.....	St. Louis
McCarty, Justin Eugene.....	Creighton University, 1927.....	St. Louis
MacDonnell, Carey Ryker.....	Indiana University, 1926.....	Bunceton, Mo.
Magnelia, August Leo.....	Washington University, 1927.....	St. Louis
Magness, Guy Norton.....	Washington University, 1928.....	St. Louis
Marks, Joseph Herbert.....	St. Louis University, 1928.....	St. Louis
Means, Robert Ross.....	Washington University, 1928.....	St. Louis
Merkle, Clarence Edward.....	St. Louis University, 1928.....	St. Louis
Mermis, Walter Orlando.....	St. Louis University, 1928.....	Youngstown, Ohio
Metscher, Alfred John.....	Washington University, 1927.....	St. Louis
Montani, Charles.....	St. Louis University, 1928.....	St. Louis
Mullinax, Orr.....	St. Louis University, 1928.....	St. Louis
Murphy, John Patrick.....	St. Louis University.....	St. Louis
Myers, Ralph Rudolph.....	Northwestern University, 1927.....	Kansas City, Mo.
Nelson, John Russell.....	St. Louis University, 1928.....	St. Louis
O'Brien, James Anthony.....	St. Louis University, 1928.....	St. Louis
O'Keefe, Paul Theodor.....	St. Louis University, 1928.....	St. Louis
Parker, Hubert McKibban.....	University of Chicago-Rush, 1927.....	Kansas City, Mo.
Patton, John Franklin.....	Washington University, 1928.....	Albany
Peterson, Fenton Joseph.....	St. Louis University, 1928.....	St. Louis
Phillips, Herbert Sharland.....	Northwestern University, 1926.....	St. Louis
Reece, A. V.....	Washington University, 1928.....	St. Louis
Riddle, Bedford Neal.....	Howard University, 1927.....	St. Louis
Riedel, Robert Henry.....	Washington University, 1928.....	St. Louis
Rigney, Levi Madison.....	St. Louis University, 1928.....	St. Louis
Rolwing, Ernest Charles.....	St. Louis University, 1928.....	St. Louis
Ruch, Walter Allwein.....	Washington University, 1928.....	St. Louis
Ready, James Hartigan.....	St. Louis University, 1927.....	St. Louis
Scherman, Victor Earl.....	St. Louis University, 1928.....	St. Louis
Scherrer, Frederick William, Jr.....	St. Louis University, 1928.....	St. Louis

Name	School	Address
Schleuter, Newell William.....	St. Louis University, 1928.....	St. Louis
Shelton, Baxter Wright.....	Washington University, 1928.....	St. Louis
Siebert, Ted Roosevelt.....	St. Louis University, 1928.....	St. Louis
Simon, Jerome Ireals.....	St. Louis University, 1928.....	St. Louis
Soule, Samuel David.....	Washington University, 1928.....	St. Louis
Squire, Edwin Ora.....	Washington University, 1928.....	St. Louis
Starnz, Roman Joseph.....	St. Louis University, 1928.....	St. Louis
Steele, Wendell Michael.....	St. Louis University, 1928.....	St. Louis
Sterling, Charles Edward.....	St. Louis University, 1928.....	St. Louis
Summers, William Rankin.....	Central Medical College, 1897.....	St. Louis
Tripodi, Donald William.....	St. Louis University, 1928.....	St. Louis
Weathers, Henri Hudson, Jr. (Colored)....	Meharry Medical College, 1927.....	St. Louis
Williams, Vincent T.....	Washington University, 1928.....	St. Louis
Williams, Wilburn Jewell.....	University of Illinois, 1928.....	St. Louis
Wilson, George Stewart.....	Washington University, 1927.....	St. Louis
Wurzer, Arnold Henry.....	St. Louis University, 1928.....	St. Louis
Zwart, Claude Henriet.....	Washington University, 1928.....	St. Louis

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL
FOR 1928

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

- Benton County Medical Society, November 4, 1927.
- St. Francois County Medical Society, January 3, 1928.
- Webster County Medical Society, January 4, 1928.
- Mercer County Medical Society, January 13, 1928.
- Madison County Medical Society, January 18, 1928.
- Chariton County Medical Society, February 23, 1928.
- Ralls County Medical Society, March 10, 1928.
- Platte County Medical Society, March 10, 1928.
- Miller County Medical Society, March 16, 1928.
- Camden County Medical Society, March 23, 1928.
- Ste. Genevieve County Medical Society, March 26, 1928.
- Atchison County Medical Society, March 30, 1928.
- Caldwell County Medical Society, April 14, 1928.
- Scotland County Medical Society, May 1, 1928.
- Schuyler County Medical Society, May 8, 1928.
- Wright-Douglas County Medical Society, May 10, 1928.
- Boone County Medical Society, May 23, 1928.
- Shelby County Medical Society, September 18, 1928.
- Dent County Medical Society, September 19,, 1928.

JOINT MEETING BATES AND VERNON-
CEDAR COUNTY MEDICAL SOCIETIES

A joint meeting of the Bates and Vernon-Cedar County Medical Societies was held in the Butler Court House, Thursday evening, September 6, 1928. At a recent meeting of the Vernon-Cedar County Medical Society held in Nevada, Dr. George H. Thiele, Butler, one of our conscientious workers, suggested that the meetings of Bates and Vernon-Cedar County Medical Societies be held jointly, one in Butler with Vernon-Cedar County furnishing the program and the other to be held the following month in Nevada with Bates County putting on the program. Dr. Thiele's suggestion was happily accepted. The program this month, furnished by Bates County, is the first of the series.

The short business meeting was followed by a good, practical presentation on "Tuberculosis With Special Reference to Pneumothorax in Treatment," by Dr. Sam H. Snider, Kansas City. This was a very excellent talk and greatly appreciated by all who heard the clear, concise speaker. It brought out the marked advance which has been made recently in the management and treatment of a great number of tuberculous patients who formerly died but now are saved by this manner of treatment. Dr. Snider showed some wonderful "before and after" pneumothorax X-ray plates which demonstrated very conclusively the advantage of such treatment and the success obtained by its use.

The second speaker of the evening was a very practical X-ray man from Kansas City, Dr. E. R. Deweese, who presented "Some Practical X-ray Findings." This was a fine presentation of X-ray plates of fractures commonly met in practice which give the greater percentage of doctors some trouble. He covered the field of fractures in a pleasing manner.

These papers were discussed by Drs. J. S. Newlon and George H. Thiele, Butler; A. B. Freeman, Rockville; Carter W. Luter, Adrian.

This was one of our most interesting meetings and it is the sincere wish of the officers that every man, unless prevented by some good reason, will attend the meeting at Nevada next month and return our thanks to the members for furnishing us such a splendid program.

The following were present: Drs. Arthur G. Alt-ham, Sheldon; H. P. Yeater, Maysville; H. A. Rhoades, Foster; Claude J. Allen, Rich Hill; J. S. Newlon and George H. Thiele, Butler; A. B. Freeman, Rockville; Carter W. Luter, Adrian. Visitors: Drs. Sam H. Snider and E. R. Deweese, Kansas City.

CARTER W. LUTER, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The Buchanan County Medical Society met September 19, 1928, at 8:15 p. m. The meeting was called to order by the President, Dr. E. A. Gummig, St. Joseph.

Dr. Caryl A. Potter, St. Joseph, read a paper on "Further Observations in the Treatment of Duodenal and Fecal Fistulae." Dr. Potter discovered some time ago that wet dressings of beef broth together with a solution of one-tenth normal hydrochloric acid prevented digestion of the tissues by the escaping duodenal juices. He reported a number of cases treated in this manner by himself and also a number treated by other physicians using his method. In practically all of the cases reported other methods of treatment had been tried first but to no avail. Almost immediately after beginning the use of the one-tenth normal hydrochloric acid solution and beef broth, breaking down of the tissues stopped and healing began. All cases reported recovered in a remarkably short time under the treatment.

Dr. Potter's paper was discussed by Drs. Byrne, Eliscu and Fuson, of St. Joseph.

A report from the committee on the Workmen's Compensation Law was read as follows:

On account of the fact that \$250 is wholly inadequate to cover the expenses incurred in many cases, it is hereby recommended that the Buchanan County Medical Society advise the Committee on Public Policy of the Missouri State Medical Association that every effort be made to have the clause "not exceeding in amount the sum of \$250" removed from the law.

The Section further states that if the employee desires he shall have the right to select his own physician, surgeon, or other such requirement at his own expense.

This Society believes that it is the inalienable right of every free-born American citizen to select his own medical or surgical treatment, and if he so expresses this desire and employs such treatment it should in no way relieve the employer or insurance company from paying the reasonable expenses of such treatment. The employer pays a premium on insurance for this service which is supposed to be entirely satisfactory to the employee.

If the employee is forced to employ a physician unsatisfactory to him he is not receiving the same consideration under the Act as the employer and the insurance company.

Division II. It has come to the notice of several members of the Buchanan County Medical Society that certain insurance companies are dictating to the employer the physician or surgeon who shall attend injured workmen.

There is no clause in the Compensation Law that permits insurance companies to dictate the physician or surgeon employed, and if insurance companies are forcing this action on the employer it is probably in many cases without the employer's full understanding of the sections of the law. Therefore, be it *Resolved*, That the Buchanan County Medical Society have printed the following information and a copy sent to each industrial corporation in this section of the country, viz:

"Information for the benefit of employers of labor coming under the jurisdiction of the Workmen's Compensation Law: This information is supplied by the Buchanan County Medical Society made up of reputable physicians in Buchanan County.

"It has been brought to the attention of the Buchanan County Medical Society that several insurance companies doing business under the Workmen's Compensation Act are attempting to dictate to employers the physician or surgeon and type of medical service rendered.

"Section 13 of the Workmen's Compensation Law specifically states that the employer alone shall provide medical service and hospital treatment. There is no clause in the law that gives insurance companies the right to dictate to the industry or corporation what physician shall be employed, and the employer has a perfect right to name the physician to represent his company."

It was moved, seconded and carried that the Society adopt this report as read and that a copy be mailed to all industrial concerns in this section of the country.

T. L. HOWDEN, M.D., Secretary.

THE KANSAS CITY ACADEMY OF MEDICINE

Meeting of April 20, 1928

EYE CLINIC.—By DR. ALBERT N. LEMOINE.

Case Reports

Case 1. A 45 year old man was pounding iron and a piece 1 by 1 by 2 mm. entered his eye. He washed the eye with weak lysol and continued work without discomfort. The next day the eye was red and three days later he had a panophthalmitis, exophthalmos, could not move the globe, and the side of his face was swollen. He had a temperature of 102 degrees and a leukocyte count of 14,000. He was given injections of foreign protein, salicylates, and local heat, and 48 hours later the eye was eviscerated. The foreign body was removed with an electromagnet. A culture from the vitreous revealed hay bacilli, ordinarily considered nonpathogenic. The eye was not eviscerated sooner because of the danger of cavernous sinus thrombosis. The patient is making a satisfactory recovery.

Case 2. Woman, aged 56, complaining of blindness was told she had a cataract. The right eye is completely blind and the left partially. She has chronic glaucoma, characterized by distended ciliary veins, 4 diopters cupping of the disks and contracted nasal fields of vision. The tension of the left eye appears normal. The lens is somewhat opaque, the pupil immobile and slightly irregular.

Case 3. Fifteen year old boy, according to Dr. Harrington's report, shows decreased caliber of his work, poor memory and poor orientation. Formerly he was an "E" student. The optic nerve heads are swollen. The patient probably has brain tumor. He has no headaches.

DISCUSSION

DR. E. T. GIBSON: There is no outstanding history and the patient should be examined for fine neurological signs. Ventriculograms may be indicated.

DR. LEMOINE, in closing: The boy has increased intracranial pressure and hydrocephalus must be ruled out.

ARTIFICIAL PNEUMOTHORAX IN TUBERCULOSIS.—By DR. SAM H. SNIDER.

This procedure should never be used in a case which gives fair promise of doing well under routine therapy, chiefly on account of the danger of empyema. Three months rest in bed should first be tried except in emergencies. The ideal case is one with a unilateral lesion, but regressive changes occur in the other lung, after pneumothorax and there is relief from toxemia; hence it can be used where there is marked cavitation on one side and only a moderately advanced lesion on the other. Dense adhesions prevent collapse by pneumothorax, and the best way to ascertain their density is by trial puncture.

Emergency pneumothorax, performed even in the

presence of an extensive lesion in the other lung, is indicated in severe hemorrhage if the bleeding point can be localized.

Complications are pleural effusion (26 per cent.) which is not removed unless present in large quantities or purulent. Purulent effusion occurred in 11 per cent. of my cases and was treated by aspiration, or open operation if associated with severe toxemia.

Most fatal cases of pulmonary tuberculosis pass through a stage when pneumothorax is feasible and advisable.

Preliminary report on personal experiences over 5 years time: In 27 cases, 15 per cent. were active, 7 per cent. quiescent, 57 per cent. arrested, 4 per cent. healed, and 18 per cent. died.

DISCUSSION

DR. LOGAN CLENDENING: This is a most important adjunct to the treatment of pulmonary tuberculosis, helping out rest, fresh air and food, and especially in Kansas City where the climate is not considered favorable for tuberculosis. The difficulty is that after several punctures the lung becomes adherent at the point where collapse occurred and after the first year the collapse secured is not complete.

DR. P. T. BOHAN: A doctor in Colorado has had good collapse for five years. This treatment was formerly used for lung abscess. For tuberculosis the treatment is not so simple as may be imagined. Questions arising are, is pneumothorax indicated, and what is the condition of the other lung?

DR. A. C. GRIFFITH: The infected lung should be put at rest by pneumothorax for at least three months.

DR. SNIDER, in closing: That in 65 per cent. of the cases the toxemia was arrested is a marvelous result, but we must remember the danger of empyema. The Colorado patient had pneumothorax for eleven years. In routine treatment I do not force eating but do force rest.

THERAPEUTICS OF DIGITALIS.—By

DR. LOGAN CLENDENING.

This discussion was precipitated by the fact that the new edition of the Pharmacopoeia was issued last year and that in revising a book on therapeutics for a new edition I was compelled to examine the new Pharmacopoeia and found a number of apparently unreconcilable items in the department of digitalis. The new Pharmacopoeia advocates the frog method of standardizing digitalis in spite of the fact that every clinician has been taught to calculate his dosage in cat units. In samples of digitalis which I have brought here you will find only two manufacturers who have standardized their digitalis by the cat method and only these two put labels on the bottles or packages showing the calculable strength of the preparation. No one to whom I have written is able to tell me how many frog units there are in a cat unit and we are left in the position of having a biological standardization of a drug made yet no one is able to tell what amount of the drug should be given a patient on the basis of that standardization.

In trying to find a practical way out of this dilemma I feel that we should use the method Withering showed us in the first description of digitalis. He used the drug until he got the results he wanted—until the pulse became regular or slow, the urinary flow increased, the patient nauseated, or until vomiting or diarrhea set in. When Eggleston proposed a dosage he recommended that the cat unit strength of the preparation be estimated and then given according to the patient's weight. His formula was $C. U. \times .10 \times Wt$

100

equals the amount of the tincture

used. Pardee estimated the elimination rate and found it to be 22 minims on the average, but in a letter from Dr. Pardee he tells me that the tincture is not eliminated by units but by amount. He adds that he believes that the drug can be administered by the unit method. His remarks however raised some doubt in my mind and, according to the observations I have made since, it is my belief that the drug should be given not in too large dosage but having in mind the effect desired and also the action of the drug on all of the five properties of the heart muscle—rhythmicity, conductivity, tonicity, contractility, and irritability—on all of which it does not act alike. Give any active preparation of the tincture or powdered leaf until you obtain the results you seek and then institute maintenance dosage.

DISCUSSION

DR. RALPH MAJOR: In his introduction Withering said, "It is easier to write on disease than remedy . . . the former is in the hands of nature . . . the latter ever subject to the whims . . . of mankind." Cushny, in response to my query about digitalis, replied, "The more you try to explain the more you have to explain." In hypertension, digitalis not only does not raise but in some instances actually lowers blood pressure which is contrary to ideas obtained in the pharmacology laboratory. The danger of using it in aortic insufficiency is also overestimated. The toxicity of digitalis is increased by elevations in temperature, hence it should be employed with care in pneumonia. In cardiac failure and myocardial insufficiency it not only does not increase but may lower the ventricular output. However, it is good in lack of ventricular balance.

DR. P. T. BOHAN: There is no drug about which doctors know so little as digitalis. The paper of 1810 represents the viewpoint of today. Digitalis modifies function, but not the pathologic lesion. Cushny states that digitalis is half the strength of tincture, and that strophanthin and not digitalis is to be used hypodermically. Digitalis may be harmful in pneumonia, and to give it intelligently its action on the different properties of the heart muscle must be remembered.

DR. R. W. SWINNEY: Two questions are, what are the indications for the use of digitalis, and when should its administration be stopped? I believe the average doctor prescribes it too promiscuously and in insufficient dosage and I want to warn against the promiscuous use of Eggleston's method. It is contraindicated in practice and should be used only on bed patients. It is probably better to become familiar with one preparation and use that one alone.

DR. R. M. ISENBERGER: On animals, the toxic effects of digitalis are striking. Wiggers has shown an increased output, without interference, with filling of the heart in normal animals under digitalis. In myocarditis, care should be taken and doses smaller than ordinary administered. Christian mentions three common errors: wrong indications for its use, not knowing when to stop it, and the use of poor preparations.

DR. HUGH L. DWYER: What is its effect in diphtheria?

DR. CLENDENING, in closing: Death in diphtheria is apparently due to heart block, and the toxin, like digitalis, acts on the atrioventricular bundle. Therefore digitalis is probably contraindicated in diphtheria. In the presence of hypertension, digitalis may be administered for auricular fibrillation. Of all cardiac failures 65 per cent. are due to auricular fibrillation, according to White. The solution to the problem presented is to know when to use digitalis and to give it until the desired effect is obtained.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society held its September meeting at Maryville, on Friday, the 14th. At 6:00 p. m. a dinner was served at the Hotel Linville to members of the Society, the Women's Auxiliary and three guests. Covers were laid for the following: Dr. E. J. Goodwin, St. Louis, Secretary of the Missouri State Medical Association; Drs. James E. Stowers and Evan S. Connell, of Kansas City; Dr. and Mrs. H. S. Maxwell and Dr. and Mrs. Charles W. Kirk, of Hopkins; Dr. and Mrs. Robert C. Person, Dr. and Mrs. Leslie E. Dean, Dr. and Mrs. C. P. Fryer and Dr. and Mrs. C. T. Bell, of Maryville; Dr. and Mrs. Eugene L. Crowson, Pickering; Dr. Charles D. Humbert, Barnard; Dr. William M. Hindman, Burlington Junction; Drs. Frank C. Wallis and William M. Wallis, Jr., of Maryville.

Following the banquet, Mrs. C. T. Bell, Maryville, Chairman of the Women's Auxiliary, introduced Dr. E. J. Goodwin, St. Louis, who gave a short talk on the aims, work, and value of the Auxiliary to the medical profession and the public.

The ladies then went to the home of Mrs. C. T. Bell for their tri-monthly business session, and the physicians to the St. Francis Hospital for the regular monthly staff meeting at 7:15 p. m.

After the staff meeting adjourned, the Society met in regular session in the first floor lecture room of St. Francis Hospital at 8:00 p. m. The following members were present: Drs. C. T. Bell, K. C. Cummins, Leslie E. Dean, C. P. Fryer, C. V. Martin, Robert C. Person, Frank C. Wallis and William M. Wallis, Jr., of Maryville; Eugene L. Crowson, Pickering; C. J. Garding, Conception Junction; Chas. D. Humbert, Barnard; Charles W. Kirk and H. S. Maxwell, of Hopkins. Guests: Dr. E. J. Goodwin, St. Louis; Drs. James E. Stowers and Evan S. Connell, Kansas City; Mother M. Augustine, superintendent of St. Francis Hospital, Maryville, Sisters Agatha and Helena.

Dr. William M. Wallis, Jr., Maryville, moved that the reading of the minutes of the last meeting be dispensed with as they would be published in the State Journal. The motion was seconded by Dr. Leslie E. Dean, Maryville, and carried.

The committee of censors reported favorably on the application of Dr. G. E. Horrocks, Maryville, read at the July meeting, and the President, Dr. H. S. Maxwell, Hopkins, ordered the ballots prepared on Dr. Horrocks's application.

On motion by Dr. William M. Wallis, Jr., Maryville, seconded by Dr. C. V. Martin, Maryville, and carried, the secretary was ordered to cast the vote of the Society. The secretary cast the vote electing Dr. Horrocks to membership by acclamation.

On invitation from the president, Dr. E. J. Goodwin, St. Louis, Secretary of the Missouri State Medical Association, gave a short talk on the Association's policies and activities.

Dr. Leslie E. Dean, Maryville, was appointed by the president, to represent the Society on the Auxiliary Committee on Public Policy and cooperate with the State Committee in the legislature, as specified by the By-Laws.

Dr. C. P. Fryer, Maryville, appointed at the July meeting as chairman of the committee on arrangements for the Regional Conference of the Missouri Tuberculosis Association, reported that plans for the special meeting of September 26 were well in hand.

The President, Dr. H. S. Maxwell, Hopkins, read the program of the Conference.

The following subjects were suggested for the Society's consideration at the October meeting: Recent advances in treatment of hemorrhoids; Neis-

serian urethritis; eczema; radium and X-ray therapy; talipes.

Dr. James E. Stowers, Kansas City, read a paper on "Acute Salpingitis and Pelvic Cellulitis," from the viewpoint of the gynecological surgeon, but with special reference, for the benefit of the family practitioner, to differential diagnosis and treatment. His paper was comprehensive and well ordered, and his advice impressed one with his soundness and conservatism.

Dr. Evan S. Connell, Kansas City, specialist in otology, gave a talk from notes and case histories on "Ear Complications in the Exanthemata." He discussed the late ideas on his topic and showed that middle ear sequelae of the diseases of childhood have a truly alarming prevalence. He stressed the importance of the pediatrician giving something more than a passing thought to otology, not so much for an exact diagnosis of the type and kind of ear complications but because these complications should always be taken into account and given consideration when an unusual case of the exanthemata presents itself. Dr. Connell emphasized the frequency, and the economic as well as the pathologic importance, of these ear complications. His advice was given close attention and his points on prophylaxis were much appreciated.

Several questions on both subjects were asked by the members and replied to by the speakers.

Dr. E. J. Goodwin, St. Louis, discussed the political situation in the State and its bearing on the welfare of the medical profession. He told us something of what is expected of us, as a County Society, in cooperating with the State Committee on Public Policy and other activities of the State Medical Association. This is the first time in a score of years that an officer of the State Association has officially visited our Society.

On motion by Dr. C. V. Martin, Maryville, seconded by Dr. C. P. Fryer, Maryville, and carried, the meeting adjourned.

CHARLES D. HUMBERT, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society with the Women's Auxiliary met at one o'clock luncheon at the Goodwin Hotel, Marshall, Wednesday, September 12, 1928. Twelve members and four visitors were present.

After the routine business was attended to, it was moved that the regular meetings of the Society be held in the evenings hereafter in an effort to increase the attendance. The motion was seconded and carried and the secretary was instructed to notify the Auxiliary.

Dr. Harry M. Gilkey, Kansas City, gave a most interesting talk on "Problems in Pediatric Practice," illustrated with lantern slides. He also showed several specimens and discussed cases with which members of the Society were familiar.

Dr. C. C. Conover, Kansas City, spoke on the "Human Heart in Infections, With Special Reference to Endocarditis and Enderarteritis."

Both of these talks were received with much interest by the members present, and after voting a resolution of thanks to the essayists the Society adjourned.

H. R. CONWAY, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY**Meeting of the General Society, May 8, 1928**

The meeting was called to order at 8:45 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of May 1 were read and approved.

The scientific program was given by the medical department of the St. Louis University and consisted of the following:

"Blood Diazo-Reaction in Nephritis," Dr. G. O. Broun.

"Types of Uremia," Dr. A. P. Briggs.

"Pathogenesis of Experimental Rheumatism," Dr. Ralph A. Kinsella.

Discussion by Dr. Warren P. Elmer; Drs. Kinsella and Broun closing.

The following announcements were made:

1. That due to the concurrent meeting of the Missouri State Medical Association at Columbia, May 14-18, there would be no meeting of the local Society on May 15.

2. A bridge luncheon would be given by the Woman's Auxiliary at the Medical Society Building on May 9, 12:30 p. m.

3. Dr. Joseph C. Bloodgood, Baltimore, would deliver an address in the auditorium of the Society on May 16, 8:30 p. m., under the auspices of the American Society for the Control of Cancer.

Attendance 86.

HARRY G. BRISTOW, M.D., Secretary, *pro tem*.

Meeting of May 22, 1928

The meeting was called to order at 8:35 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of May 8 were read and approved.

Dr. Walter Hewitt presented a patient who had undergone a radical Wertheim operation for cancer of the cervix five years ago.

A specimen of an unusual appendix was presented by Drs. Roland Hill and R. M. Smith.

The regular scientific program was furnished by the staff of the Barnard Free Skin and Cancer Hospital and consisted of the following:

"Precancerous Lesions of the Skin," Dr. M. F. Engman.

"Vaginal Hysterectomy, Under Local Anesthesia for Cancer of the Cervix," Dr. George Gellhorn.

"Treatment of Cancer of the Lower Lip," Dr. Wm. E. Leighton.

"The Practical Application of the New X-ray Unit of Measurement in Malignancy," with demonstration of the apparatus, Dr. Edwin C. Ernst.

Discussion by Dr. Joseph Grindon.

A motion picture, made under the auspices of the Antivenin Institute of America, was shown depicting the preparation of antivenin, the antidote for snake bite poisoning.

Attendance 150.

Meeting of May 29, 1928

The meeting was called to order at 8:45 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of May 22, 1928, were read and approved.

A specimen of "Multiple Adenoma of the Kidney" was presented by Dr. Robert Vinyard.

The regular scientific program was given by the Department of Urology, Washington University, and consisted of the following:

"Control of Hemorrhage Following Suprapubic Prostatectomy" with a new compression clamp and bag, with a sound for introduction of same, Dr. H. G. Greditzer.

"The Relation of Urinary Secretion to the Acid Base Balance and Osmotic Pressure of the Blood Serum in Health and Disease," Dr. Alexis F. Hartman.

"Presentation of a High Frequency Cautery Punch and Child's Punch," Dr. John K. Caulk.

"The Uretero-Vesical Valve and Experimental Production of Hydroureter Without Obstruction," Dr. Charles M. Gruber.

Discussion by Drs. H. McClure Young, Francis Reder, Neil Moore; Drs. Greditzer and Caulk closing.

Attendance 60.

Meeting of the Council, May 9, 1928

The meeting was called to order at 8:00 p. m. by the president, Dr. Charles Hugh Neilson. The minutes of the meeting of April 11 were read and approved.

A letter from Dr. Sam T. Bassett concerning a donation from Mrs. Sam T. Lipsitz was read. On motion the donation was accepted and ordered added to the Library Endowment Funds to be handled in the same manner as the Boislaniere and Gregory Funds.

A letter from Dr. Louis H. Behrens concerning a memorial of William Beaumont in Kenrick Square was read and on motion it was decided that a committee of three be appointed, including Dr. Behrens, to investigate the feasibility of this project and report to the Council.

A letter from Dr. John C. Guenther resigning from membership was read and his resignation was accepted.

A letter from Mrs. John H. Duncan was read. It was moved by Dr. H. Unterberg, seconded by Dr. F. J. V. Krebs, "that a special memorial expressing our appreciation of this gift be sent to Mrs. Duncan." Carried.

The report of the membership committee was read by the secretary.

On motion of Dr. Amand Ravold, seconded by Dr. C. A. Vosburgh, the proposed members were voted on individually and the following were elected:

Active, Goronwy B. Broun, 1536 Papin Street; George H. Garrison, Isolation Hospital; Earl R. Rice, Frisco Hospital; Junior, John A. Brennan, St. John's Hospital; John J. Hammond, St. John's Hospital; Thomas M. Martin, St. Mary's Hospital; John D. Stillwell, 1001 Paul Brown Building.

The report of the library committee was read and accepted.

The report of the necrology committee was read by the secretary and accepted.

The treasurer's report was read by the secretary and accepted.

Dr. C. H. Neilson reported on the progress of the campaign for funds to complete the building project.

Councilors present: Drs. E. C. Funsch, J. F. Hardesty, F. J. V. Krebs, C. H. Neilson, Amand Ravold, Francis Reder, R. E. Schlueter, H. Unterberg, Roland S. Kieffer. Councilor absent: Dr. Fred Bailey. Councilors excused: Drs. R. B. H. Gradwohl, John Green, J. F. Mayes, C. A. Vosburgh. Visitor present: Dr. Claude D. Pickrell.

ROLAND S. KIEFFER, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held at the home of Dr. John O'Connell, Overland, September 12, 1928, at eight p. m. An enjoyable time was had by the following: Dr. and Mrs. Paul R. Whitener; Dr. and Mrs. John D. Haywood, St. Louis; Dr. and Mrs. R. B. Denny, Creve Coeur; Dr. Otto W. Koch and sister, Miss Frieda Koch, St. Louis; Dr. and Mrs. Otto W. Schudde, Ferguson; Dr. and Mrs. R. A. Walther, Overland; Dr. and Mrs. J. A. Prichard, Overland; Dr. and Mrs. E. E. Tremain, Maplewood; Drs. John H. Sutter and Harry Greensfelder, University City; Drs. J. A. Sterling and Joseph McNearney, St. Louis. Visitors from the St. Louis Medical Society were, Drs. M. L. Custer and F. L. Finley, St. Louis.

During the short business meeting Dr. Paul R.

Whitener and Dr. F. L. Finley applied for membership.

A motion endorsing Dr. John O'Connell, Overland, as a candidate for the office of coroner for St. Louis County was seconded and unanimously carried.

E. E. TREMAIN, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.
President-Elect, Mrs. M. P. Ravenel, Columbia.
1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. James F. Owens, St. Joseph.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.

Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Schaffler, Kansas City; Mrs. Hudson Talbott, St. Louis; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Hinchey, University City; Mrs. H. A. Brierly, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler

ORGANIZED COUNTIES AND PRESIDENTS OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. H. C. Brashear.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph
Butler.....	Mrs. L. B. Knecht.....	Poplar Bluff
Caldwell.....	Mrs. Emma A. B. Thompson.....	Breckenridge
Cape Girardeau.....	Mrs. W. W. Ford.....	Gordonville
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Daviess.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. J. N. Barger.....	Albany
Greene.....	Mrs. Paul F. Cole.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
Henry.....	Mrs. R. D. Haire.....	Clinton
Holt.....	Mrs. F. E. Hogan.....	Mound City
Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
Jasper.....	Mrs. C. C. Cummings.....	Joplin
Johnson.....	Mrs. H. F. Parker.....	Warrensburg
Knox.....	Mrs. W. F. O'Connor.....	Edina
Laclede.....	Mrs. J. C. Scott.....	Lebanon
Lafayette.....	Mrs. J. D. Guyot.....	Higginsville
New Madrid.....	Mrs. M. Mayfield.....	Portageville
Phelps.....	Mrs. A. S. McFarland.....	Rolla
Pike.....	Mrs. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Francois.....	Mrs. G. L. Watkins.....	Farmington
St. Louis City.....	Mrs. Raymond M. Spivy.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

NODAWAY COUNTY AUXILIARY ORGANIZED

The Women's Auxiliary to the Nodaway County Medical Society was organized May 11, 1928, at the

home of Mrs. H. S. Maxwell, Hopkins, under the direction of Mrs. W. T. Martin, Albany. The organization begins its activities with seven charter members. The following officers were elected: President, Mrs. H. S. Maxwell, Hopkins; first vice president, Mrs. R. C. Person, Maryville; second vice president, Mrs. Eugene L. Crowson, Pickering; corresponding secretary, Mrs. C. W. Kirk, Hopkins; recording secretary, Mrs. W. M. Hindman, Burlington Junction; treasurer, Mrs. L. E. Dean, Maryville.

Mrs. C. W. KIRK, Corresponding Secretary.

LAFAYETTE COUNTY AUXILIARY

The Women's Auxiliary of Lafayette County has started its new year with interest, according to word from its President, Mrs. J. DeVoine Guyot, Higginsville. The last meeting was in the form of a delightful summer get-together basket picnic. Among those attending were: Mrs. J. DeVoine Guyot, Mrs. W. A. Braecklein, Mrs. W. E. Koppenbrink and Mrs. W. A. Porter, of Higginsville; Mrs. C. T. Ryland, Mrs. A. J. Chalkley, Mrs. J. Q. Cope, Mrs. B. T. Payne and Mrs. T. R. Butler, of Lexington; Mrs. R. C. Schooley and Mrs. W. E. Martin, of Odessa; Mrs. Lewis Carthrae, Jr., Corder; Mrs. E. L. Johnson, Concordia; Mrs. Odus Liston, Oak Grove; Mrs. J. W. Horner, Alma.

ST. LOUIS AUXILIARY

At the annual business meeting of the St. Louis Women's Auxiliary, Friday, June 8, the members were guests of the outgoing board at an informal luncheon, followed by the regular business program. Reports were presented by retiring officers and committee chairmen. Among the items of interest were the following:

Receipts for year, \$1305.16; disbursements, \$1191.02. More than three thousand letters and cards were sent out and seventy-one new members were added to the rolls. About two thousand circulars of an educational nature on health were distributed in congested districts untouched by modern methods.

Two health education program teas given to members and friends, four dinners served to members of the St. Louis Medical Society and their wives, and one bridge luncheon for Auxiliary members and friends are items from the social calendar.

The Hygeia chairman reported sixty-seven new subscriptions to Hygeia and four displays during the year.

Mrs. H. McClure Young, Chairman of the Nominating Committee, read her report which was accepted.

The following officers were unanimously elected: President, Mrs. Raymond Spivy; first vice president, Mrs. John Zahorsky; second vice president, Mrs. Frank R. Finnigan; third vice president, Mrs. Charles H. Neilson; fourth vice president, Mrs. McKim Marriott; recording secretary, Mrs. A. E. Meisenbach; corresponding secretary, Mrs. W. A. Hall; treasurer, Mrs. William Weiss; directors, Mrs. H. S. Langsdorf, Mrs. Carroll Smith, Mrs. Charles W. Tooker, Mrs. Robert J. Crossen, Mrs. Hudson Talbott, Mrs. Willis B. Young.

An interesting advance movement was a decision to issue a monthly bulletin which will contain announcements and news of Auxiliary activities. Mrs. Willis B. Young, Mrs. H. S. Langsdorf and Mrs. Robert J. Crossen are in charge of this publication.

The meeting closed with brief addresses from Mrs. Willard Bartlett, newly elected State President, and Mrs. Raymond Spivy.

MRS. HUDSON TALBOTT.

STATE HYGEIA PRIZE CONTEST

Mrs. W. T. Martin, Albany, State Chairman of Hygeia, announces the following rules governing the state Hygeia contest for individual Auxiliary women. The prize is a beautiful fur neck piece.

1. Any member of the Women's Auxiliary in Missouri, in good standing, may participate in this contest.

2. The contest begins September 1, 1928, and ends January 10, 1929.

3. The individual securing the largest number of subscriptions for Hygeia, figured on an annual basis, during this period will receive as a prize a fifty dollar fur neck piece offered for the purpose to the State President, Mrs. Willard Bartlett, St. Louis, by the Leppert-Roos Fur Company, St. Louis.

4. Rates for subscriptions are to be secured from Mr. F. V. Cargill, Hygeia Department, American Medical Association, 535 North Dearborn Street, Chicago.

5. Commissions of about \$1.00, as per Mr. Cargill's instructions, are to be deducted by the contestants and checks for the balance are to be made payable to "Hygeia" and sent to Mr. Cargill.

6. Receipt for subscriptions will be sent by Mr. Cargill to the contestant, and at the end of each month duplicate of receipts from all contestants will be sent to Mrs. W. T. Martin, Albany, Missouri, State Chairman of Hygeia, for the purpose of checking subscriptions.

7. Name and address of contestant (and name of physician whom contestant represents in the Auxiliary if she is not the wife of a physician) must be sent with each order.

Notes

The fall activities of the Women's Auxiliary to the St. Louis Medical Society have started with a membership drive to enroll the eligible women not already affiliated with the organization. This drive has been started early in order that the St. Louis Auxiliary may send in the names of new members in time for them to be included in the new State Year-Book to be issued shortly. Mrs. McKim Marriott, vice president and chairman of the membership committee, has sent out a letter inviting new members.

The first monthly board meeting of the season will be held on the regular meeting date, the last Friday morning in the month, September 28, in the Council room of the St. Louis Medical Society Building, with the new President, Mrs. Raymond M. Spivy, presiding. The outline of the season's program will be discussed and plans made for the opening dinner of the fall at the St. Louis Medical Society Building.

TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

BACILLUS ACIDOPHILUS MILK-HERMES.—A whole milk cultured with *B. acidophilus*. It contains not less than 200 million of viable organisms (*B. acidophilus*) per cc. at the time of sale. For a discussion of the actions, uses and dosage of bacillus acidophilus preparations, see New and Nonofficial Remedies, 1927, p. 216, "Lactic Acid-Producing Organisms and Preparations," Hermes-Groves Dairy Co., Pittsburgh. (Jour. A.M.A., January 14, 1928, p. 117.)

PHANODORN.—Cyclobarbitol.—Phanodorn differs from barbitol (diethyl-barbituric acid) in that one of the ethyl groups of barbitol is replaced by a cyclohexenyl group. The actions and uses of phan-

odorn resemble those of barbitol, but it is more than twice as active as barbitol and the therapeutic dose is correspondingly smaller. It is eliminated more rapidly than barbitol; hence the action is not so lasting. This is an advantage when it is used merely to put one to sleep where sleep will then continue without its further action. It is used mainly for its sedative action. Winthrop Chemical Co., Inc., New York. (Jour. A.M.A., January 14, 1928, p. 117.)

Sterile Solution of Dextrose (d-Glucose) 50 cc. Double End Vial.—Each vial contains Dextrose, U.S.P., 25 Gm.; cresol, 0.1 per cent.; distilled water, to make 50 cc.; buffered with diabasic sodium phosphate anhydrous and potassium biphosphate anhydrous. H. K. Mulford Co., Philadelphia.

HEXYLRESORCINOL SOLUTION S. T. 37.—A solution of hexylresorcinol—S. & D. (New and Nonofficial Remedies, 1927, p. 320), 1 part, in a liquid composed of glycerin 30 per cent. and water 70 per cent., 1,000 parts. Sharp & Dohme, Baltimore.

ILETIN (Insulin-Lilly) U-100, 10 cc.—Each cubic centimeter contains 100 units of insulin-Lilly (New and Nonofficial Remedies, 1927, p. 198.) Eli Lilly & Co., Indianapolis. (Jour. A.M.A., January 28, 1928, p. 293.)

PROPAGANDA FOR REFORM

THE COMPOSITION OF PROCAINE BORATE (Borocaine).—At the request of the Council on Pharmacy and Chemistry the A.M.A. Chemical Laboratory made an investigation of "Borocaine," marketed by Sharp & Dohme, particularly with a view of determining whether it presented sufficient novelty to permit recognition of the proprietary name. The study was made by George W. Collins, Sc. D., who concludes that the product marketed as "Borocaine" is procaine borate; that it is a definite chemical compound which is readily hydrolyzed when dissolved in water, and acts as an aqueous solution of boric acid to which has been added procaine (base). He concludes that it is not a hitherto undiscovered compound. (Jour. A.M.A., January 7, 1928, p. 25.)

Nobro.—This is another phenobarbital (luminal) mixture sold as a cure for epilepsy. It is put out by the Nobro Medio Co., Worthington, Ohio and sold on the mail-order plan. The individual behind this concern seems to be one Harry M. Freck, whose claim to medical knowledge appears to be based on the fact that he once operated the Freck Garment Company, and at present conducts the Freck Stenographic Bureau and an advertising circular-letter business. He has been connected with other "patent" medicines. Nobro comes in the form of pink capsules. The "course" consists of ninety capsules sold for four dollars. The A.M.A. Chemical Laboratory analyzed Nobro and reports that each capsule contains essentially 0.0414 Gm. (approximately 3/5 grain) of phenobarbital to which has been added lactose. (Jour. A.M.A., January 7, 1928, p. 49.)

DESICCATED PARATHYROID GLAND PREPARATIONS OMITTED FROM N.N.R.—The general article Parathyroid Gland, in New and Nonofficial Remedies, 1927, states that there is no conclusive evidence for the oral use of parathyroid gland preparations. In 1926 the Council decided to omit all such preparations with the close of 1927 unless in the meantime evidence should develop to show that they were effective. No such evidence has developed. On the contrary, evidence in the opposite direction has become available. Accordingly, the Council directed the omission of all the accepted brands of desiccated parathyroid gland from New and Nonofficial Remedies. (Jour. A.M.A., January 14, 1928, p. 117.)

JOHN R. BRINKLEY—Quack.—In and from the little village of Milford, Kansas, John Richard Brink-

ley demonstrates the commercial possibilities of "goat-glands." He obtains his publicity through sensational articles in newspapers and by means of the privately owned radio broadcasting station KFKB. Those who write to the station are immediately put on the Brinkley "sucker list" and receive miscellaneous printed matter and a follow-up series of letters that, seemingly, never end. One of the advertising booklets sent out by Brinkley is entitled "The Compound Operation, or The Modern Passport to Successful Rejuvenation." It is claimed that "the Compound Operation is the best thing for Impotency, high blood pressure, enlarged prostate, sterility (anastomosing operation), Neurasthenia, Dementia Praecox, or any disease that is not malignant of the prostate." Those who get on the "sucker list" are urged to make reservation in the Brinkley "hospital" at the earliest possible time. Brinkley also has a "Special Gland Emulsion" which is another means of separating seekers of rejuvenation from their money. This is sold on the mail-order plan and one month's supply costs \$100. (Jour. A.M.A., January 14, 1928, p. 134.)

DIPHTHERIA TOXOID (Anatoxine-Ramon).—This product, as prepared at the serum division of the Pasteur Institute by Dr. Ramon himself, has been successfully employed in immunization against diphtheria in France and other countries. No information is at hand as to the efficacy and safety of commercial preparations of diphtheria toxoid made in this country. The Council on Pharmacy and Chemistry of the American Medical Association has not accepted any of these preparations for inclusion in New and Nonofficial Remedies. (Jour. A.M.A., January 14, 1928, p. 139.)

NEW AND NONOFFICIAL REMEDIES

ACETARSONE—Abbott.—A brand of Acetarsone-N.N.R. For a discussion of the actions, uses and dosage of acetarsone, see New and Nonofficial Remedies, 1927, p. 83. This product is supplied in substance and in 0.25 Gm. Tablets. Abbott Laboratories, North Chicago.

ERYSIPELAS STREPTOCOCCUS ANTITOXIN (Concentrated)—Mulford.—An erysipelas streptococcus antitoxin (New and Nonofficial Remedies, 1927, p. 337) prepared by injecting horses intradermally with strains of hemolytic streptococci isolated by H. Amoss from human cases of erysipelas lesions, bleeding the horses and when test bleedings show the serum to have reached the desired potency, separating the serum, sterilizing it, and preserving by the addition of 0.35 per cent of phenol. The product is then concentrated by a process which preserves both the antitoxic and antibacterial properties claimed to be in the original serum. The product is marketed in packages of one 20 cc. syringe. H. K. Mulford Co., Philadelphia.

CHOLERA BACTERIN (Cholera Vaccine).—This cholera vaccine (New and Nonofficial Remedies, 1927, p. 358) is also marketed in packages of one 20 cc. vial containing 1,000 million killed cholera vibrios per cc. H. K. Mulford Co., Philadelphia. (Jour. A. M. A., September 10, 1927, p. 883.)

IODOXYBENZOATES.—Iodoxybenzoic acid resembles salicylic acid, chemically differing in that the hydroxyl group of the latter has been replaced by an iodoxy group. The known actions of the salts of iodoxybenzoic acid, as developed by investigators, led up to its clinical application by Young and Youmans in the treatment of arthritis. The investigators, in their introduction of the substance, used the sodium salt or ammonium salt prepared

extemporaneously; later, they recommended the use of ammonium iodoxybenzoate. The salts of iodoxybenzoic acid are indicated chiefly in arthritis. They are reported to be preferably administered intravenously; however, for cases in which the drug cannot be given intravenously, oral administration and administration by high enema have been employed and found effective.

AMIODOXYL BENZOATE (Ammonium O-iodoxybenzoate).—The ammonium salt of 2-iodoxybenzoic acid. The latter differs from orthohydroxybenzoic acid (salicylic acid) in that the hydroxy group is replaced by the iodoxy group. It contains 42.7 per cent. of iodine. For a discussion of the actions and uses, see the preceding article "Iodoxybenzoates."

AMIODOXYL BENZOATE—Abbott.—A brand of amiodoxyl benzoate-N.N.R. Abbott Laboratories, North Chicago.

CAPSULES EPHEDRINE HYDROCHLORIDE—Swan-Myers, 0.05 Gm.—Each capsule contains Ephedrine Hydrochloride—Swan-Myers (Jour. A. M. A., April 16, 1927, p. 1235) 0.05 Gm. Swan-Myers Co., Indianapolis.

EPHEDRINE SULPHATE—Abbott.—A brand of ephedrine sulphate-N.N.R. For a discussion of the actions, uses and dosage of ephedrine sulphate, see The Journal, A. M. A., March 19, 1927, p. 925. Abbott Laboratories, North Chicago. (Jour. A. M. A., September 24, 1927, p. 1061.)

PETROLAGAR (Unsweetened).—Liquid petrolatum 65 cc. emulsified with agar in a menstruum containing sodium benzoate 0.1 Gm., and water to make 100 cc. Deshell Laboratories, Inc., Chicago.

MEAD'S STANDARDIZED COD LIVER OIL, FLAVORED.—Mead's standardized cod liver oil (New and Nonofficial Remedies, 1928, p. 253) containing 0.12 per cent. of a mixture of vanillin and oil of lavender as flavoring. Mead Johnson & Co., Evansville, Ind.

CELLU SOY BEAN FLOUR.—A partially defatted flour prepared from the soy bean, having approximately the following composition: protein, 45.5; carbohydrate, 25.5, of which less than one half readily yields sugar; fat, 8.5; ash, 6.0; fiber, 4.7; and water, 9.5. Cellu soy bean flour may be used for preparing bread and muffins in cases in which a diet relatively free from carbohydrate is desired, as in diabetes and amylose dyspepsia. The Chicago Dietetic Supply House, Chicago.

CELLU SOY CRISP.—A prepared "breakfast food" made from cooked soy beans without removal of fat and having approximately the following composition: protein, 45.6; carbohydrate, 16.1, of which less than one half readily yields sugar; fat, 20.8; ash 6.7; fiber, 6.8; and water 4.0. It may be used in cases in which a diet relatively free from carbohydrate is desired, as in diabetes and amylose dyspepsia. The Chicago Dietetic Supply House, Chicago.

MEAD'S POWDERED BOILABLE LACTIC ACID MILK.—A modified milk product prepared by adding lactic acid U. S. P. to whole milk, drying and powdering. Each 100 Gm. contains approximately protein, 26 Gm.; lactose, 36.3 Gm.; butter fat, 27.2 Gm.; free lactic acid, 3 Gm.; ash, 6 Gm., and moisture, 1.5 Gm. Mead's powdered boilable lactic acid milk is proposed for overcoming the so-called buffer action of cow's milk in the infant's stomach. Mead Johnson & Co., Evansville, Ind.

DIPHTHERIA TOXOID.—Diphtheria Anatoxin.—The toxin of diphtheria modified by the method of Ramon. The work of G. Ramon, of the Institute Pasteur, has shown that the toxin of diphtheria may be modified by treatment with formaldehyde to reduce its toxicity and yet preserve its antigenic

properties. Diphtheria toxoid is used for active immunization against diphtheria. It is administered subcutaneously.

DIPHTHERIA TOXOID - MULFORD.—*Anatoxine-Ramon.*—Prepared from broth cultures of diphtheria toxin having an L + dose of 0.25 cc. or less, diluted with physiologic solution of sodium chloride and free of serum proteins. It is marketed in packages of one immunizing treatment and in packages of ten immunizing treatments. H. K. Mulford Co., Philadelphia. (Jour. A. M. A., August 4, 1928, p. 321.)

PROTEIN EXTRACTS DIAGNOSTIC-P. D. & Co.—In addition to the products listed in *New and Non-official Remedies*, 1928, p. 42, the following have been accepted: Cotton Protein Extract Diagnostic-P. D. & Co.; Cotton Seed (Cake) Protein Extract Diagnostic-P. D. & Co.; Goat Hair Protein Extract Diagnostic-P. D. & Co.; Human Hair Protein Extract Diagnostic-P. D. & Co.; Kapok Protein Extract Diagnostic-P. D. & Co.; Peptone Protein Extract Diagnostic-P. D. & Co.; Poplar-Pollen Protein Extract Diagnostic-P. D. & Co.; Sunflower Pollen Protein Extract Diagnostic-P. D. & Co.; Sweet Vernal Grass Pollen Protein Extract Diagnostic-P. D. & Co. Parke, Davis & Co., Detroit. (Jour. A. M. A., August 11, 1928, p. 397.)

BOOK REVIEWS

AFFECTIONS OF THE STOMACH. By Burrill B. Crohn, M.D., Associate Attending Physician to the Mt. Sinai Hospital, New York City. Octavo of 902 pages with 361 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company. 1927. Cloth, \$10.00 net.

A comprehensive, up-to-date textbook on diseases of the stomach. The subject matter has been covered succinctly and thoroughly from the viewpoint of both laboratory worker and clinician. The chapters are well arranged in an orderly manner with numbered references at the end of each. A wide range of literature has been covered including that of both the old world and the new. From the enormous volume of literature pertaining to this subject the author has selected that which is pertinent and disregarded the rest.

The first nine chapters are devoted to anatomy, physiology and laboratory tests. Chapter X takes up radiographical technic and diagnostic methods. This is a lengthy chapter and contains in its bibliography fifty-six references. Chapters XI, XII and XIII especially stress the importance of a careful history and physical examination. The present tendency in medicine is to over-emphasize the aid and data contributed by laboratory examinations to the detriment of the clinical information gained by a careful history and physical examination.

Almost a third of the volume is devoted to gastroduodenal ulcer, its etiology, pathology, diagnosis and treatment. This subject is particularly well handled and contains references of all recent literature pertaining to these conditions. The various theories as to etiology are commented upon and analyzed. The chapters on symptomatology and laboratory data are up-to-date and express all that is known. Considerable space is taken up with complications and sequelae.

Three chapters are devoted to medical treatment. The author states: "The treatment of uncomplicated gastroduodenal ulcer is essentially medical; the treatment of its complications (repeated hemorrhage,

perforation, mechanical deformity of the stomach and the suspicion of malignancy) is essentially surgical."

There are two chapters on surgical treatment written by A. A. Berg, who evidently belongs to the radical school of surgeons that believe radical resections, such as partial gastrectomies, are more to be depended upon for a cure than the simpler operation of gastro-enterostomy. The conclusions of this school are based upon the unproved hypothesis that acid plays the main part in the etiology of gastroduodenal ulcer and therefore must be eliminated before any permanent cure can be expected.

The chapter on malignancy presents a statistical review of the subject and emphasizes the fact that although pathology, roentgenology, clinical medicine and surgery have made rapid strides in the recognition and treatment of cancer, yet the death rate increases annually.

The book is well worth while for the general medical man as well as to one who is especially interested in the subject of gastro-enterology.

L. H. S.

GYNECOLOGY. By Howard A. Kelly, A.B., M.D., LL.D., and Collaborators. New York and London: D. Appleton and Company. 1928.

The author and his collaborators have taken the entire field of gynecology and placed it before the reader in such a concise manner that the reading is both profitable and pleasing. The arrangement is almost ideal, each chapter being a complete treatise on the subject dealt with. However, the author has completely neglected to include a bibliography; this would have proven valuable to students, who undoubtedly will use the book.

Periuterine tubal insufflation, pneumoperitoneal roentgenography, ultraviolet radiation and electrothermy are discussed in no small detail, as is also the subject of endometrioma. One chapter is devoted to a discussion of backache. Both office procedure and surgical technic are treated in detail throughout the book. The text of about 1043 pages is embellished with almost 800 clear and excellently executed illustrations.

This volume is probably the most modern and complete text on gynecology now at our disposal and should be a valuable asset to students and practitioners for some years to come.

E. S. A.

THE PATHOLOGY AND TREATMENT OF DIABETES MELITUS. By George Graham, M.A., M.D., F.R.C.P., Assistant Physician, St. Bartholomew's Hospital. Second Edition. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$2.75.

This handbook is especially timely and instructive and should be very valuable inasmuch as it may have the desired effect upon the untutored general practitioner who looks upon insulin as a panacea in diabetes. The thoroughness and clearness with which the pathology is gone into are very instructive. The chapters on the known metabolism and conditions of sugar excretion are especially valuable, as are the classification and principles of treatment with and without insulin. The detailed treatment and the management of coma are especially important.

It should be read by all general practitioners and would be a great benefit to many who claim some degree of specialty virtues in handling diabetic patients. The diets and tables of laboratory tests are very interesting, but are of the usual technic.

F. I. R.

A MANUAL OF PHARMACOLOGY AND ITS APPLICATION TO THERAPEUTICS AND TOXICOLOGY. By Thorald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. Third Edition; entirely reset. 1184 pages. Philadelphia and London: W. B. Saunders Company. 1926. Cloth, \$7.50 net.

This edition of Sollmann's well known text has been in great part rewritten and while designed particularly for the needs of medical students it is comprehensive enough to be useful as a book of reference which purpose is furthered by the inclusion of an extended and handily arranged bibliography. There is a full discussion of the action of the so-called "war gases" embodying the information gained by clinical and laboratory means during and since the World War. In the matter of glandular therapy the author very justly finds fault with the unscientific methods which have been followed in much of the work, the tendency to dispense with definite objective criteria of action, adequate controls, and even critical diagnosis. There is an extended discussion of the newer experimental and clinical researches upon the digitalis group. Not every clinician will agree with the enthusiastic statement that "proper administration of salicylates controls the manifestations [of rheumatic fever] so uniformly that failure throws suspicion on the diagnosis." In fact the author himself promptly adds that the benefit is temporary, that relapse occurs when the drug is discontinued and that according to statistics the duration of the disease, in terms of hospital days, is not affected. The erroneous idea, still so prevalent, that salicylates are in the nature of a "specific" in rheumatic fever cannot be too quickly eradicated. The effect and uses of oxygen gas inhalation are treated too briefly and the method of administration is inadequately described. There is a full discussion of the use of iodine in the treatment and prophylaxis of thyroid conditions, the theories of its action and the question of what constitutes overdosage in the matter of goiter prophylaxis. There can be no doubt that the so-called "prophylactic" administration of iodine is a two-edged sword to be handled only with the greatest caution. A more satisfactory understanding of iodine therapy in goiter will depend upon an increased knowledge of the cause of goiter and hyperthyroidism. A free exchange of ideas and the results of clinical experience must meanwhile be relied upon to keep the medical profession from any extreme measures in the handling of thyroid conditions. No ipse dixit can be permitted.

J. E. C.

TOBACCO AND PHYSICAL EFFICIENCY. A Digest of Clinical Data with Annotated Bibliography. By Pierre Schrupf-Pierron, M.D., Professor of Clinical Medicine, University of Cairo. Preface by Henri Vaquez, M.D., Professor of Medicine, University of Paris. Published under the auspices of The Committee to Study the Tobacco Problem with a Foreword by Alexander Lambert, M.D., President. Paul B. Hoeber, Inc., New York. 1927. Price \$1.85.

This is a valuable reference work because it contains a complete bibliography and also abstracts and summaries of the literature on the tobacco problem.

The book is of the more importance because the good women of our country are now directing their attention toward shutting off tobacco (as well as liquor) from their good men. In other words, when

there is so much discussion about the effects of drugs and habits it is well for physicians to be armed with facts rather than opinions. This book furnishes a goodly number of facts.

But as to the conclusions one reaches after reading the book,—well that is at least a different matter. The first half of each chapter might lead one to think that tobacco is an unmitigated evil; the other part of the chapter might lead one to think that it is not an unmixed evil and possibly a real blessing. Hence one is apt to lay down the book with the same feeling with regard to tobacco that he had when he took it up. But, as stated, the book is a valuable one for the general practitioner who has to give his opinion on the subject of the use of tobacco.

It is one of a series issued by this committee on tobacco of whom the members are: Dr. W. G. Anderson, Dr. Elmer Berry, Dr. Rubert Blue, Dr. W. B. Cannon, Dr. T. N. Carver, Dr. Anotnin Clerc, Dr. Charles B. Davenport, and many others.

G. H. H.

PHYSICAL DIAGNOSIS. By W. D. Rose, M.D., Associate Professor of Medicine in the University of Arkansas, Little Rock, Ark. Fifth edition. Three hundred ten illustrations and three color plates. St. Louis: The C. V. Mosby Company. 1927. Price \$10.00.

In the fifth edition of this work the author has maintained the excellent arrangement of giving the clinical anatomy and physiology, and the pathological physiology of the regions under consideration, as a basis for the understanding of the physical signs. In addition to the physical examination of the thoracic and abdominal cavities and their viscera, the all too infrequent consideration of the examination of the head, neck, limbs, as well as of the nervous system, is included. A most useful and well executed feature of the book consists of the large number of illustrations of patients, charts, curves, and diagrams, showing methods of physical examination.

Taken as a whole the book presents the subject of physical diagnosis from a most interesting and stimulating point of view.

W. B.

THE PNEUMOTHORAX AND SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS. By Clive Riviere, M.D., Lond., F.R.C.P., Physician, City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E. etc. Second edition. Oxford University Press. American Branch, 35 West 32nd Street, New York City. 1927. Price \$3.25.

In this book the author discusses the surgical treatment of pulmonary tuberculosis, taking up most of the space with a study of artificial pneumothorax. He spends considerable time in discussing the indications, contraindications, technic and the mechanical effects produced by pneumothorax treatment.

Dr. Riviere is a great believer in artificial pneumothorax and devotes a chapter to very interesting statistics on the results of treatment in the most important clinics of Europe.

Several chapters are given to the discussion of thoracoplasty, giving indications, contraindications, technic and statistics on the results of treatment.

This little book is a valuable contribution to the study of the surgical treatment of tuberculosis.

H. I. S.

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ORIGINAL ARTICLES

SYMPOSIUM ON HEADACHE

HEADACHES OF OCULAR ORIGIN*

LAWRENCE POST, M.D.

ST. LOUIS

When I was asked to discuss the role of the eyes in relation to headache I decided not to trust to clinical impressions but to analyze a considerable number of cases with this point in view. Accordingly, I reviewed six hundred and ten of my cases beginning in January, 1921, including each new case. Some of my findings differed considerable from my expectations so I have made the analysis of these cases the basis of this communication and have kept clinical impressions in the background.

As a preliminary remark, I would insist on the appreciation that headaches of ocular origin are similar to other headaches in that they depend very much on the general physical condition of the patient. The action of focusing the eyes may be compared to any muscle action, as the ocular muscles follow the same laws as other muscles. When an individual is tired the eye muscles will not act as well as when he is rested and often a large error of refraction will not cause headaches when the patient is well while even a small one will cause discomfort when the health is poor. Then too, there is marked individual variation in that one person will not be bothered by an error of refraction which will incapacitate another of less stable temperament or less robust nature.

I do not intend to indulge in statistics but to give rather the conclusions derived from the statistical study of this group of cases. Unfortunately, my observations throw no light on the percentage of headaches in general that are of ocular origin because those who consult the ophthalmologist on account of headaches naturally do so because they believe their eyes to be responsible for their trouble while those who

do not think their eyes are responsible are more apt to seek advice from some doctor other than the eye doctor. So many of the oculist's patients consult him because of headaches that he is certain to be overly impressed by the ocular relationship.

Of the 610 cases which I analyzed, about one-half the patients came because of diseases or injuries of the eyes or adnexa. These were all excluded from the statistics as the presence or absence of headaches, being entirely secondary, was rarely considered in these cases though some diseases, such as acute glaucoma and iritis, were almost always associated with pain in the head.

Of the cases not in this group, headache was the chief complaint in 62 per cent. It is interesting to note that only 44 per cent. of the men while 75 per cent. of the women complained of headache. Among the males the commonest decade for headaches was the third while the second, fourth and fifth shared practically equally with one another. In the first ten years of life and after fifty, headache was almost never complained of by the males.

Among the females the third and fourth decades showed the preponderance. The second decade had about half as many while the first, fifth and sixth decades each contained about one-fifth as many as the third and fourth.

I expected to find that most of these headaches would prove to be of ocular origin, but only about 65 per cent. impressed me, after careful study, as being due to refractive or muscular troubles. An analysis of the other 35 per cent. indicated that the largest number of cases was undoubtedly due to nasal disease; some were apparently digestive, some from high blood pressure, an occasional one from low, some were typical migraine and, parenthetically, I might remark that I excluded migraine from the group due to ocular trouble as I believe this disease to have other basis, and then of course, without enumerating others, there was the group of those for which no etiology was ever determined.

Living conditions must not be overlooked as factors in headache. The nasal cause ranks

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high in cities on account of the frequency of nasopharyngeal disturbance due to smoke and dust irritation and in our climate to instability of weather during the winter months.

The ophthalmic origin would also obviously be greater among those who do close work than those who do not.

An analysis of the nature and location of the headaches revealed that of those who mentioned specific location, and it is important to note that the majority did not complain of any particular region, by far the most frequent was frontal, being two-thirds of the total and of these about one-half were unilateral. Next in frequency were the occipital and next those at the top of the head.

The types of errors of refraction chiefly associated with headache were, as expected, hypermetropia and hypermetropic astigmatism. The next most frequent cause was imbalance of the extraocular muscles but this occurred scarcely one-fifth as often. Here there was a ready possibility of error because the muscle imbalance was usually associated with an error of refraction and this may have been more responsible for the trouble than the muscle imbalance.

Regarding what I mean by muscle imbalance, to avoid a technical discussion, suffice it to say that my standards of this do not differ from the generally accepted ones.

Practically equal in importance with muscle imbalance in producing headaches was found mixed astigmatism and myopic astigmatism. Presbyopia without error of refraction was an occasional cause and last of all, as anticipated, was simple myopia.

An important factor in the causation of ocular headaches but one so indefinite in its boundaries that no group could be made with any certainty, was spasm of the ciliary muscle. In this type, which occurs perhaps most frequently in the 4th and 5th decades, repeated tests of the refraction without cycloplegia will usually fail to bring out a large amount of latent hypermetropia which can be determined accurately in these cases by paralyzing completely the ciliary muscle. Usually relief will come during the use of the cycloplegic and nothing is more gratifying than the comfort obtained after wearing for a while the lenses which will permit relaxation of the muscle spasm.

The next consideration was to determine the percentage we were able to help and the types in which we succeeded and those in which we failed.

Having chosen patients seen during the year of 1921, I thought that most of those for whom glasses had been prescribed would have re-

turned for reexamination within seven years, but in this I was mistaken as only about 30 per cent. had done so. Whether the others had been relieved and were still comfortable or whether they had not been helped and had sought aid elsewhere I could not judge, though it is more reasonable to suppose that if relief had not been received they would have returned to complain. However, it seemed best to omit them from the figures.

Of those who had complained of headaches, irrespective of whether the headaches had been considered due to the eyes or not, 54 per cent. were relieved. The best results were obtained in the group of those who complained of general headache without any particular location having been recorded in the history. Sixty-four per cent. of these were rendered comfortable. The bilateral frontal group was next with 60 per cent. relieved. Pain in the vertex was seldom helped and occipital pain in only 22 per cent. while no case of unilateral headache was entirely alleviated by the ocular treatment. These unilateral cases I believe were almost all due to sinus infection and many of them were helped by nasal treatment.

That not one unilateral case was relieved was merely a coincidence I am sure and though the percentage in a larger number of cases would have been low it would not have been zero for I can recall a few unilateral headaches which were dependent on errors of refraction.

Concerning the types of error of refraction the correction of which cured the headache, in cases where the headache was thought to be due to ocular conditions, the best results were in presbyopia where the cure was 100 per cent. Almost equally successful with a percentage of relief above ninety were the hypermetropic and compound hypermetropic conditions. Most unsuccessful were the muscle imbalances especially the marked exophorias of which only a few were helped.

In the small number of cases of this trouble in which the exophoria for distance was greater than 15° and the patients permitted a muscle operation the results were very gratifying but not many patients whose eyes showed no obvious lack of alignment were willing to undergo an operation.

In conclusion, there are no certain features of nature or location of headache which indicate absolutely that the trouble is of ocular origin nor is there any truth in the idea that the location of the pain will determine the kind of error of refraction or muscle imbalance. However, there are some points that are suggestive in the differential diagnosis of headaches from eye strain and other headaches. Most important clues may often be derived from a care-

ful history because the subjective symptoms are very suggestive. In general the characteristics of headaches of ocular origin may be said to be that they are associated with use of the eyes. They rarely occur upon arising unless the patient retired with the head aching severely. They are usually bilateral frontal in character, and get worse as the use of the eyes is continued. They are especially associated with hypermetropic or astigmatic errors of refraction or muscle imbalance. The headaches from errors of refraction yield readily to suitable glasses but the muscle imbalances often require muscle exercises or operation.

Ocular abnormalities are an important cause of headaches and the possibility of the existence of such abnormalities should be borne in mind in any case of persistent headache.

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HEADACHES OF NASAL ORIGIN*

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It has long been my conviction that the proper study of headache, even of nasal headache, must be prefaced by a careful classification of symptomatology and nomenclature intelligible certainly to the physician, and as far as possible to the layman as well. If a patient came complaining of "body-ache" it is not likely that the term would find its way into the history; but we write "headache" without qualification many times a day. The patient is unfamiliar with the internal arrangement of his nose and consequently lacks terms to designate even in a general way where his trouble lies. It occurs not infrequently that a well trained laryngologist presenting himself for the treatment of headache, states definitely that his pain centers about the posterior end of the middle turbinate, or in the anterior ethmoidal labyrinth and in fact it can be shown to do so.

Much nasal headache is therefore, strictly speaking, "nose ache" in that the pain is actually felt as being extracranial. Fenton¹ reviews the simple relations of the Gasserian ganglion to all the optic, nasal and cranial structures in the fifth week embryo, and points out the practical fact that in spite of the complex relations in the adult, the original tracts persist and that their complexity is more apparent than real. The fifth nerve is the essential cranial sensation nerve and our study of nasal headache resolves itself really into a study of nasal conditions in some way affecting the fifth nerve.

While time does not permit of a detailed con-

sideration of these conditions it is necessary to classify them concisely because diagnosis and treatment rest solely upon them. I have found the following classification extremely useful:

CLASSIFICATION

1. Pain arising directly from mechanical aberrations of the nasal structures; the sinuses, the septum and the turbinated bones (in order of their importance).

2. Pain arising directly from inflammatory tissue reaction upon nerves or ganglia.

3. Pain arising directly through vasomotor disturbances, which produce tension or pressure upon the meninges or upon the end organs of sensation in the nose.

I am aware that this arrangement is neither classical nor strictly academic, but I have found it highly practical in the routine scrutiny of the nose as a possible cause of headache; and in determining the course of treatment once the diagnosis is made.

Mechanical aberrations include direct pressure of one structure against another; air pressure, occasioned in a closed sinus (this pressure may be positive or negative); contact of foreign bodies or new growths; irritation or drying of the mucosa occasioned by the uneven distribution of inspired air; and the last (but far from least) pressure from contracting postoperative scars.

Inflammatory changes include not merely those actively occurring within mucosa, periosteum and bone, but also the effects of the products of inflammation upon the surrounding nerve endings, as in the case of crusts, scars and adhesions.

The vasomotor disturbances are often part of the symptom-complexes of hay fever and asthma, or they may be the result of aberrations of the sympathetic tracts associated with the nasal ganglia.

The subject of sinusitis has seized the public imagination to the extent that patients with headache are constantly presenting themselves for treatment, with the home-made diagnosis of sinus disease or simply "sinus," as they call it, firmly established in their minds.

Such statements must be met with extreme skepticism. If one happens to be a rhinologist perhaps the best plan is to attempt to prove that the headache in question does not come from the nose, rather than that it does. This will at least call up for consideration the important, and sometimes obvious, extranasal causes of headaches.

No general rule holds for the differentiation of nasal headaches from others. Drury finds it useful to divide the nose into three sensory zones which may afford some clue to the loca-

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tion of the nasal disease: (1) The anterior and posterior ethmoidal nerves, twigs of the frontal branch of the first division of the fifth nerve supply the anterior part of the nasal cavity and the septum, the frontal and ethmoidal sinuses, and the skin of the nose and of the forehead as far lateral as the supra-orbital notch; (2) the superior dental branches of the maxillary (second division of the fifth) nerve supply the floor of the nose and the maxillary sinus; (3) sensory branches of the nasal ganglion supply the sphenoid, posterior ethmoid and parts of the septum.

It will be seen from the foregoing that headaches of nasal origin are apt to be localized affairs rather than generalized cranial pains. It does not follow that they are localized at the site of their inception. Sluder's "lower-half headache" is an example of this. Skillern observes that although pains referable to the frontal and anterior ethmoidal cells are usually confined to their respective locations, maxillary sinus pains may be supra-orbital; posterior ethmoidal and sphenoidal pains may be vertical or occipital. I wonder whether this may not be traced in part to the patient's lack of descriptive terms to which I have already referred, as the patient obviously has no terms for pains in the parts themselves and feels he must locate them at some point on his aching head. It happens frequently for instance that a patient describes accurately a vertical pain and then cries out "There, that is the place" when the face of the sphenoid is touched.

It is characteristic of nasal headaches that they appear at stated times of the day, usually in the morning, and almost never at night. Exceptions to this rule are the acute empyemas with obstruction, and the pronounced septal impactions, which ache at any and all times.

To the nerve tracts already mentioned as avenues of pain, should be added the veins. These afford extensive and intimate communication between the nasal and the intracranial structures, and any interference with their normal circulation may be interpreted in terms of headache.

Little can be said here in regard to treatment, not because this is simple or of slight importance, but on the contrary because it taxes our judgment and skill to their limits, and because an incomplete discussion of it might be misleading.

Treatment will resolve itself in any case into the removal of one of the three causes enumerated above; mechanical pressures, inflammatory reactions, and vasomotor disturbances. It should go without saying, (but in practice it requires particular emphasis) that the headache will persist until its particular

cause is removed, no matter how many other extensive alterations may be made in the nose. Many an offending sphenoid is overlooked because some fantastic but innocent septal spur has captured one's attention.

I have confined myself to the broad outlines of my subject, and have but a single word in conclusion. That is a plea for careful diagnosis. Let me repeat that it is not enough to know that the nose is the seat of a given headache. Before instituting treatment it is essential to determine upon which of the three types of nasal aberrations the pain depends, in order to select the remedy intelligently for the case in hand.

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RELATION OF HEADACHE TO OBSTETRICS AND GYNECOLOGY

PRESENT DAY VIEWS*

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To those of us whose memory of student days carries back to the latter decades of the 19th century the mention of headache in obstetrics at once brings up the admonition of the professor in his exciting and graphic lectures on eclampsia: "Always watch for the classic warning symptoms, unilateral headache, disturbance of vision, epigastric pain, the most pathognomonic of these being the frontal headache."

Every textbook carried the symptoms one should expect in differentiation of the headache due to the various gynecological lesions which were categorically enumerated.

Thus twenty-five years ago this topic would have been very clearly defined, as the profession as well as the laity had definite ideas of the relation of the pelvic organs of the woman to various types of headache, which were supposed to be correlated through the sympathetic nervous system.

There has been indeed since the beginning of medicine speculation as to the influence which ovarian and uterine disease manifested in producing the most frequent of all disturbances of health, that is headache. Time was that these conditions were called reflexes and the solution depended on surgical removal of the pelvic organs, which was fashionable in the last century. Burgman quoting Leftrich alleges that there are 160 conditions which may cause headache, in addition to the "morning after," the result of violation of the Volstead act; conse-

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quently the problem confronting the diagnostician is a formidable one and the statement that more headache remedies are sold than any other combination of drugs is probably correct.

Headache is defined as a pain due to some pathological condition, a sensory disturbance caused by irritation of the fifth nerve termination.

When headache results from an abdominal lesion, which it is admitted may be the case, the head symptom presents the indication of the direct or indirect cause which may be located at some point distant from the head.

When the trigeminal nerve is affected resulting in headache it may happen in any one of three ways: (1) By involvement of the nerve itself; (2) by some remote disease which generates a toxin that finds its way to the head through the circulation; (3) by reflex action.

From this classification Allgair defines headache according to pathological development into three groups: Group 1, due to direct irritation; group 2, caused by toxins; group 3, due to reflex action. The first group includes brain tumor, nasal polyp, deflected septum, ear inflammation, pyorrhea and low type meningitis. This series is one with which the neurologist, the oculist and the otologist have to deal. It is estimated that 70 to 90 per cent. of all headaches are included in this group.

The mere enumeration of these sources of headache would be a herculean task and prove time consuming without resulting benefit. Lord Dawson,¹ of Penn, said headache is a term of such variable significance that the very myriad form of pain included suggests the best classification with which he is acquainted, namely, (1) pain which one can forget, (2) pain which one cannot forget, (3) pain which makes one forget everything else. Moreover, he asserts the character varies to such a degree that it may be called pain, unbearable pressure, throbbing, splitting, or as the French so aptly designate, *le casque tete* or lead bound head, the product of two variable factors, (1) an alternation of resistance of the primary synopsies concerned with the sensory nerves of the scalp; (2) the overflowing of an unusual impulse through those synopsies into the pain tracts which are normally occupied with the transmission of afferent impulses from the peripheral nerves of the scalp.

These may be (a) abnormal chemical products in the blood stream; (b) electrical changes in the body,—the fact that persons who suffer from neurasthenia are apt to feel a dull headache before a thunder storm suggests that the changes in electrical capacity of the

human body have some influence in the synopsis; (c) hereditary instability of the nervous system. As another indication in those who have neurasthenia, headache is hereditary in three cases out of four.

Influence from other branches of the trigeminal nerve may produce headache; also an influence from another cutaneous nerve on either side of the body, such as a cervical group, may be carried over a synopsis in which resistance is lowered into the pain tracts of the ophthalmic division of the trigeminal nerve.

The pain which in labor is so intolerable frequently exerts such influence on those subjects sensitive to headache that the patient cries against the sense of light, usually yellow or green, which gives her an agonizing distress.

Impulses from other sensory organs may produce headache; the auditory from loud noise, or the visual from bright lights, the vestibular stooping may provoke violent pain. Emotional states, impulses arising from the cerebrum, psychological impulses, are all causes of headache.

Neurasthenic patients who dream vivid pictures are subject to dull headache the morning after. So headaches are analogous to referred pain, such as occurs in appendicitis, biliary colic and heart disease, differing only in the ease with which they are provoked.

All these are but the product of two variable forces, (1) the alternation in equilibrium of the primary synopsies and (2) the overflowing of an impulse from a neighboring neuron.

Headache, the commonest of all symptoms, comes from a great variety of sources, cerebral and organic, readily gains access to the pain tract in connection with the scalp where the low resistance of the synopsis guarding the pain tracts of the ophthalmic division of the trigeminal nerve proves a prepotent outlet for impulse liable to overflow. The great majority of headaches are therefore frontal; but localization of any headache is no indication of the nature or source of the disturbing influence.

Ivy Mackenzie considers headache a clinical expression of the most varied form of disease and that the trigeminal nerve nucleus of the medulla was the prepotent sensory center whose irritation was a necessary link in the production of headache.

The irritation may be toxins of infection, inflammation of structures supplied by the trigeminal, even the flow of cerebral stimuli impinging on the trigeminal nucleus.

Edward Pinkham, of the N. Y. Post Graduate Medical School, recently called attention to the older textbooks localizing a headache due to lacerated cervix, to a misplaced uterus or to a

1. Lord Dawson: A Clinical Address on Some Varieties of Headache, Brit. M. J. 1:607-609 (April 12) 1927.

diseased or prolapsed ovary. He however also doubts if any pelvic lesion carries with it a concomitant headache. He quotes Leszynski: "The idea that the location of a pain in any particular region is always directly related to some special underlying adjacent or remote pathological process, has not been substantiated by clinical experience."

Pinkham thinks the social status of the patient has much to do with headache. In a clientele of 500 women he found 20 per cent. of the clinical and 60 per cent. of the private cases complained of headache. He found that the majority of pauper patients who had headache were relieved by a brisk laxative or an enema, while only one-third of the private cases were so benefited.

Dysmenorrhea, uterine displacement and profuse menstruation are accompanied by headache. The explanation is that the patient being so predisposed only needed the irritation of the condition to produce the pain. Pelvic lesions may frequently interfere with normal functions sufficiently to produce headache, the headache being the symptom of a secondary condition. For example, an adherent retroversion may interfere with proper evacuation of the sigmoid or the rectum or with the venous channels, thereby conducing to intestinal engorgement or passive congestion thus setting up headache through dural irritation.

The importance of recognizing that pelvic disease and headache are not related as cause and effect lies in the fact that by this recognition the danger of overlooking the real underlying cause is minimized. Where a perineorrhaphy or trachelorrhaphy may be found necessary this operation alone will not be regarded as the only line of treatment. If these conditions are corrected perhaps the irritation is relieved, but nature must still be aided by appropriate treatment addressed to the indigestion which was the immediate cause of the symptom.

Burgman questions the statement that many headaches from intestinal stasis and following alcoholic dissipation are toxic. He claims these are usually due to congestion, a swollen nasal mucosa. During the menstrual period reflex headache is more easily excited because of disturbance of nerve control. These cases are possibly toxic. Women with pelvic disease have an engorgement at the menstrual epoch intensifying the reflex cause. Women past fifty are not subject to migraine, so high blood pressure should be looked for if severe headache is developed beyond the fifth decade.

Richard Cabot says there are two widespread fallacies regarding headache. One is that physiological or pathological states of the

female generative organs produce headache. The other is the explanation of headache by calling it lithemic or rheumatic. Lithemia, he says, means constipation and a lazy, gluttonous habit. Rheumatic headache he refers to Edinger's type "indurative headache" probably the most frequent form of all headache and the one unknown to the majority of physicians but familiar to masseurs and physicians who have studied and practiced massage.

These indurations or foci are due to painful spots near the insertion of the muscles of the occiput; the trapezius, sternocleidomastoids and *scaleni* become sensitive, uneven and nodular, as if, Edinger says, something were deposited in the substance of the muscles. These indications are associated with occipital pain which disappears with massage and Edinger, who apparently considers the headache neuralgic, calls attention to the necessity of always including a search for foci of indurative headache.

Cabot's second fallacy has to do with the subject of our discussion, headache due to the condition of the female generative organs and quoting Butler as including dysmenorrhea, uterine pathology and diseases of the ovaries and even the bladder as cause of headache. He asserts no proper justification of this idea had ever been attempted.

Headache is extremely common in menstruation and also in eclampsia, but it would be absurd to connect eclamptic headache with the uterus. It is resultant of the toxemia.

In a discussion of backache, another bete noire of diagnosis, Cabot quotes Dercum to show that even in backache the symptom is only coincident; a table giving results of clinical examination of 87 cases where coincident headache was supposedly due to pelvic disease showed only 13 in which there was any pelvic lesion demonstrated. Of 25 cases having frontal and occipital headache 5 had some pelvic disturbance and of 26 complaining of occipital headache 3 had diseased pelves.

The second group only interests us from the point of view of the gynecologist because so many toxemias result in headache. Toxins enter the general circulation and are brought into contact with the meninges, thus acting on the fifth nerve and a headache results. Chronic disease of any of the abdominal viscera and the endocrine glands and general diseases, as syphilis, leukemia, anemia and arteriosclerosis, are included and only are we concerned with the arrest of the disturbance of the organ involved in producing the toxin.

The ovaries and uterus are charged in some instances with being offenders, developing the toxins which are thrown into the blood stream in such excess that disaster results, the head-

ache here being merely a danger signal of the effect on the organism. The old idea of menstrual headache here being reflex is not accepted today any more than that of the uterus being primarily at fault under other conditions, such as eclampsia. Engorgement and hypersecretion do play their part but the toxemia is not a pelvic disease; rather resultant from general metabolic disturbance.

It would seem however in the light of our present knowledge that little is to be added to the very comprehensive summary of Dr. Crossen who in a paper before the New York State Medical Society some years ago said: "The decision as to what extent a pelvic lesion can be held responsible for extrapelvic symptoms will depend to a considerable extent on the physician's views on reflex symptoms in general and pelvic symptoms in particular. The removal of the pelvic lesion will relieve the distant nervous disturbances only insofar as that nervous disturbance is due to malnutrition or to general irritation of the nervous system dependent on the local lesion. There is admitted no specific influence by way of nerves of a pelvic lesion over a like lesion in any other of the deep seated organs. Many of the organs of the body give into the blood specified substances having definite general and local effects; the ovary belongs to this group. This influence, however, is carried by the blood stream and not by the nerves.

"Pelvic disease then may cause headache: (1) Through blood loss with resulting anemia, malnutrition, lowered resistance and increased irritability of all the nerves; (2) by septic absorption from an inflammatory focus with like results; (3) through peritoneal irritation with consequent malnutrition from vomiting or other digestive disturbance; (4) through pain so persistent or so recurring as to put the whole nervous system in an irritable hypersensitive condition; (5) through worry over serious pelvic lesion or even about a minor lesion.

"Much is to be learned about the autonomic nervous system so intimately concerned with reflexes and referred pains from visceral disease. In the future study of the intricacies of the sympathetic and parasympathetic systems there may develop nerve paths through which uterine and ovarian disease may cause headache. So far these phenomena must be considered simply as coincident and not *quid pro quo*."

According to all recent writers, the headache of toxemia of pregnancy calls for immediate and strenuous treatment by diet, elimination, diuresis and diaphoresis, purgation and rest in bed, which are included as the outstanding features of the management. Ultimately

the emptying of the uterus may become inevitable, always of course following consultation.

Headache of premonition of eclampsia, the dull persistent throbbing pain, either frontal or superior occipital, is always significant. In any woman who is pregnant and who is suffering from recurring headache for the first time in her life the causal indication is important and should be seriously considered. This headache calls for repeated reading of blood pressure, urinalysis and ophthalmoscopic examination. The fact that the headache is more pronounced during the time which would correspond with the menstrual period would be suggestive of pituitary disturbance. Frequently the type of headache is worse on waking, clearing up at noon.

One finds after a thorough search through the literature the only reason for this discussion, which is that such an emphatic conclusion is now held by writers as to the relation of pelvic lesions, obstetrical and gynecological, with headache.

These are the result of more accurate clinical observation as well as the inclusion of diagnostic elaboration through the laboratory which is one of the blessings brought to us by the twentieth century in medicine.

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BIBLIOGRAPHY

1. Cabot, R.: Headache, Differential Diagnosis, 1914, p. 32. Headache from the Gynecological Standpoint.
2. Crossen, H. S.: Headache from the Gynecological Standpoint, J. Missouri M. A. **23**: 429, 1926.
3. Fishbaugh, E. C.: Headache in Relationship to Ovarian Dysfunction, Endocrinology **11**: 445, 1927.
4. Loughman, R. L.: Headache from the Auriesti Standpoint, The Post Graduate Magazine **27**: 765, 1912.
5. Burgman, F. A.: Etiology of Headache, Lancet **40**: 516, 1920.
6. Paulson, F. S.: Headache, Lancet **46**: 167, 1926.
7. Allgair, E. D.: Headache, Causes and Treatment, J. Med. and Surg. **38**: No. 7, p. 266.
8. Lord Dawson: A Clinical Address on Some Varieties of Headache, Brit. M. J. **1**: 607-609 (April 12) 1927.
9. Woodson, J. M.: Recurrent Headache Obscure Origin, Texas J. Med. **17**: 442 (January) 1922.
10. Halliday, James M.: Symptomatology of Headache, Glasgow M. J. **106**: 281 (November) 1926.

HEADACHE FROM THE NEUROLOGICAL ASPECT*

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Headache is so common a symptom of disease that practically every physician encounters it every day in his practice. Most headaches are more or less acute and are accompanied by other symptoms and signs of disease which point the way to a diagnosis and permit of proper treatment and amelioration or cure. There are some cases of headache, however, which are chronic and persistent and associated

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with few other symptoms, so that at times the headache almost alone represents the disease. It is this residuum of chronic and obscure headaches which occasions most of our difficulty and it is in this group of cases that the aid of the specialist is most apt to be sought.

Within the scope of such a paper as this it is impossible to discuss at length all of the forms of headache due to diseases of the nervous system. I shall attempt only to call attention to the distinguishing features of the more important neurological conditions which may cause chronic headache and to point out a few of the signs by which we may recognize them. Headache in itself of course is only a symptom, and it is its association with other features which enables us to establish the nature of the underlying pathology and to fix its location.

Headache may be defined as pain perceived by the patient as inside of the skull. Such a definition of course excludes the different forms of neuralgia and other pains perceived in the face and in other regions not within the skull itself. The brain itself is insensitive to pain and may be cut or handled in the conscious patient without causing pain. The arachnoid has no nerve fibers, and the pia mater has only sympathetic fibers accompanying the blood vessels. The dura mater, however, has a rich nerve supply derived principally from the fifth cranial nerve. There are also sensory branches of the upper cervical nerves supplying the dura, and the vagus nerve participates in the nerve supply of the posterior cranial fossa. The dura is quite sensitive to painful stimuli, and we thus come to the conclusion that headache in the strict sense, that is, pain perceived in the interior of the skull, is chiefly produced by irritation of the branches of the trigeminus in the dura. The nerve supply at the base is richer than that over the vertex, and pain is more easily produced at the base of the brain. The participation of the vagus nerve in the nerve supply of the posterior fossa may account for occipital headache associated with abdominal and pelvic conditions.

The stimulus which irritates the nerves of the dura may be physical or chemical. Among physical agents is increased intracranial pressure, as in cases of brain tumor. This may compress the dura against the inner table of the skull, or may act indirectly by compromising the blood and lymph supply. We know that nutritional disturbances of the nerves can cause pain, as for example in neuralgia. Among chemical irritants are the toxic products of febrile diseases, products of intestinal putrefaction, retention substances in nephritis, and finally the exogenous poisons, such as alcohol, nicotine, chloroform, amyl nitrite, lead, etc.

In many kinds of headaches physical as well as chemical or toxic moments are important.

In the present state of our knowledge a satisfactory and systematic classification of the different forms of headache is full of difficulty; the most suitable classification, I believe, is one based on the requirements of practice. It is not yet possible to erect a classification based entirely on anatomical or etiological moments.

MIGRAINE

Among the relatively independent forms of headache, Auerbach assigned first place in order of importance to migraine. This consists of paroxysmal attacks of headache which are usually unilateral and often preceded by an aura in the form of some visual disturbance. The attacks are associated with nausea and vomiting. In true migraine there is usually a family history of sick headache or some nervous affection. The disease begins at puberty and subsides at the time of the menopause in women and at the period of involution in men. Many unusual cases occur so that sometimes headache is the sole outstanding feature. In any given case, unless there is a positive family history and unless the disease has begun in youth and is marked by periodicity, the diagnosis of migraine is open to doubt. Likewise when a syndrome similar to this appears for the first time in middle life one must look carefully for syphilis of the central nervous system.

FUNCTIONAL

If we inquire closely into the character of headache, and we ought always to do so, we find sometimes that the patient suffers not so much from actual headache or pain, as from a sensation of discomfort or distress. This may be described as a feeling of pressure, a feeling of emptiness or fullness, or sometimes a band about the head. When a patient tells us that he has suffered constantly with headache for years, and we find upon close inquiry that the headache has some of the features just described, we must at once think of neurasthenia, especially if he has been able to sleep in spite of his discomfort. This is probably the most frequent form of headache with the exception of migraine and is closely related to the fatigue or exhaustion headaches occurring in individuals who otherwise enjoy good health. These may be brought on by fatigue, for example the strain incident to studying for examinations, caring for a relative during a long illness, or anything else which may cause fatigue or exhaustion. Housewives, students, dressmakers and factory workers are particularly subject to exhaustion headaches. The neurasthenic headache and migraine are common in women in adult life. The long duration and comparative-

ly mild character of the neurasthenic headache distinguish it from migraine and from those forms accompanying organic brain disease. No headache should lead to a diagnosis of neurasthenia unless there is something other than the headache to point to this condition. A headache of this type occurring after the age of fifty should lead us to examine the patient closely for evidence of arteriosclerosis.

The typical hysterical headache is the so-called *clavus hystericus* or hysterical nail. The patient often describes it as the sensation of a nail being driven into the skull at the vertex. The pain is usually localized to an area not larger than a half dollar. It may last for hours, days, or weeks. Sometimes an obstinate posterior headache which may radiate to the temples and forehead is noted in hysterical patients. Hysterical headache may occur in combination with headache from other causes in the same patient. In all these cases one must search carefully for hysterical stigmata, absence of the corneal reflex, pharyngeal anesthesia, hemianesthesia, etc. The fantastic character of the complaints and the character anomalies of hysteria which are sometimes present may aid in establishing the diagnosis in a doubtful case.

BRAIN TUMOR

Intracranial lesions, such as brain tumor and brain abscess, are important causes of headache. If suitably located, the lesion may at first cause a local irritation of the dura which gives rise to a sharp, dull or boring localized headache, and this may be associated with soreness or tenderness of the scalp near the site of the local irritation. With extension and expansion of the lesion, the headache becomes more diffuse and an increase of intracranial pressure then causes a mechanical headache due to changed pressure conditions. Almost all patients suffering from brain tumor complain sooner or later of headache. It is not only the most common but also the most distressing symptom. Of course a tumor may be present for a long time without producing any headache, and this is particularly apt to be so when the tumor is small and of slow growth. The patient sometimes complains merely of a sensation of fullness or discomfort; on the other hand the pain may be agonizing, indeed there is no other condition which causes such intense pain. In the earlier stages it is apt to be intermittent; later it tends to be constant with paroxysms of increased intensity. As a rule the pain is generalized but it may be referred to one or another particular region of the head and may be of some help in localizing the lesion. If there is tenderness in the region of the head-

ache it is very suggestive. Conclusions as to the location of a lesion drawn from the site of the headache may be very misleading, as for example a tumor of the posterior cranial fossa may cause headache in the frontal region, and vice versa. It is the association of headache with vomiting, *choked disc* and other signs which enables us to arrive at a diagnosis of brain tumor. The localization of the lesion depends of course upon careful search for localizing signs, and to establish it definitely may tax our diagnostic resources to the utmost.

BRAIN ABSCESS

In all forms of brain abscess, the otitic, traumatic, and the metastatic, headache may be one of the earliest and most constant symptoms. Its intensity may vary from the slightest to the most violent; however it is not so violent nor so obstinate as in brain tumor. In general its situation and the local sensitivity of the skull to pressure and percussion are more valuable as localizing signs than in brain tumor. Choking of the disc is more apt to be present in cases of tumor than in abscess. The location of the most frequent form of abscess, namely the otitic, is usually in the temporal lobe or in the cerebellum. If it is in the right temporal lobe every localizing sign may fail. The diagnosis of brain abscess is more difficult than that of brain tumor and is always uncertain unless some of the known etiological moments are present (ear disease, head injury or a primary focus of infection, especially in the lung). In cases of ear disease when the patient begins to complain of headache we ought to look carefully for intracranial complications.

MENINGITIS

Headache is often one of the earliest signs of syphilitic meningitis and the vascular form of cerebrospinal syphilis, and it may be the only sign of the disease. It is usually more severe at night and indeed this is true of all syphilitic headaches. The absence of this feature, however, does not exclude syphilis as the cause of the headaches. In the prodromal stage of paresis, headache may occur and may resemble migraine. It has been pointed out above that the appearance of such a headache in middle life, without family history, should lead to a careful search for evidence of syphilis. It must be remembered that the nervous system is often involved early in the course of a syphilitic infection and headache and other signs of meningeal irritation may occur in the secondary stage. Close investigation may reveal pupillary anomalies, discrepancies in the reflexes, cranial nerve weakness, etc. Examination of the cerebrospinal fluid may clear up a case of

chronic headache which is otherwise inexplicable.

ARTERIOSCLEROSIS

Headache may exist for some time as the only manifestation of arteriosclerosis and is usually associated with obstinate sensations of dizziness and vertigo. There is often diminished capacity for mental effort and at times mental depression. The headache is customarily located in the forehead and may have a tormenting and obstinate character. Overexertion may cause an exacerbation of the headache so that the patient complains of severe pain. The differentiation of this form of headache from that of neurasthenia may not be easy, and indeed a neurasthenic headache of long duration may pass over into the arteriosclerotic form. When an obstinate headache has its onset toward the end of the fifth decade or later, one must always think of a possible arteriosclerotic basis, and go over the vascular system carefully. The heart should be examined, the blood pressure taken, the peripheral arteries palpated, the urine investigated, and the retinal arteries examined with the ophthalmoscope for any sclerotic changes. The use of the ophthalmoscope may give us valuable information in all organic conditions affecting the central nervous system and should not be neglected.

PITUITARY

Pituitary headache is characteristically of a deep bursting character, with pain in the temporal regions and deep in the orbits. The association of hemianopsia, enlargement of the sella turcica, or other signs of pituitary disorder will help to establish the character of this type of headache. Moore states that in women a functional swelling of the anterior lobe of the pituitary may cause headache simulating migraine. X-ray shows no changes in the sella in these cases and the administration of whole pituitary gland may relieve them.

Persistent headache in young children almost always means organic disease of some sort and should lead to a careful examination of the sinuses and ears. Young children of course sometimes have organic involvement of the nervous system but rarely have the functional nervous affections. Headache is uncommon in the aged and when met with is practically always due to arteriosclerosis or some other organic condition.

CONCLUSION

It is evident that not all of the conditions which may affect the nervous system so as to cause headache have been described. An at-

tempt has been made, however, to touch on the more important ones which may be responsible for obscure and troublesome headaches. So far nothing has been said about treatment. When we are able to establish the cause of a headache definitely as an organic disease, this in itself provides us with a logical basis for treatment. If, however, after careful consideration, the conclusion is reached that a headache is of functional origin some definite attempt to afford relief to the patient should be made, even if the underlying causes still elude us. The feeling that something has been done for his relief may cause the patient to be less concerned about his condition and to some extent to accept it. Headache of neurotic origin may be extremely difficult to cure and one may be obliged to shift from one expedient to another to provide relief. If the headache can be greatly lessened it may become quite bearable and may not interfere seriously with the patient's ability to carry on the necessary activities of life.

It must be borne in mind that many times the reason why a patient continues to suffer from a persistent and intractable headache is our ignorance and not a perverted desire on the part of the patient to suffer pain. No patient should be considered a neurotic until after he has had a careful and complete investigation of everything, and not even then unless there is something else to point to a neurosis besides the headache itself. We do not yet know everything about the subject of headache and there are some cases in which with all the means at our disposal we are still unable to arrive at a solution of the problem.

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DISCUSSION

DR. H. L. KERR, Crane: Headache should, I think, be divided into three classes: headaches that can be forgotten, headaches that cannot be forgotten, and headaches that cause the patient to forget everything.

The Program Committee has urged me to urge you men to discuss this important subject. Headache is perhaps the most common of all symptoms, the symptom for which people buy more remedies over the drug counter than for any other that we know of and headache remedies are myriad. People spend lots of money each year for headache remedies, something to ease the headache, something to ease the pain. The physician is not called on, we country physicians especially, until the patient has forgotten everything.

DR. J. H. TIMBERMAN, Chillicothe: We have papers this morning on a very important subject because headache is what brings a good many to our offices.

In Dr. Post's paper on the ocular origin of headache, we ought to appreciate his classification. Dr. Proetz in referring to the ethmoid, sphenoid, frontal and the spur of the septum brings out points that you find in ear, nose and throat work, and you will find in general work. I believe every headache,

whether we are practicing in a town of 800 or 8000, or in the metropolitan cities, should have the location determined so that if you are an oculist you can say, "I want the ear, nose and throat man to see it."

Dr. Post brought out one point that is certainly well worth your remembering. The unilateral headache is usually not from the eye. That may be true, as he said, with your cylinder for astigmatism. If the lens becomes turned you not only get your headache from it, but you likewise get inflammatory redness and swelling. The ethmoid sinus is causing some trouble, but there are too many headaches coming to you and saying, "I have sinus, doctor." We usually answer that by saying, "Yes, we all have sinus derangements," because when they have made the diagnosis of sinus trouble, as Dr. Proetz said, one of your very best protective measures is to decide, "Well, I am on the defense here. This man may not have a sinus."

It is well worth while to make a nasal examination for every headache and locate it if you can. We can't always do it.

DR. F. M. POTTENGER, Monrovia, California: Pain is one of the most important symptoms of disease. One of the difficult things for me to accept in medicine was that visceral pain is expressed on the surface of the body. It was not until the studies of Ross, McKenzie and Head that we were able to understand the true nature of surface pain.

With reference to headache we must not be too narrow in our conceptions. One of the first services of the nervous system is to correlate and integrate activity. Every afferent nerve traveling to the higher centers can under certain conditions be connected in such a way as to produce reflex activity in every efferent nerve in the body. Headache can be produced reflexly from any important viscus in the body. The vagus nerve goes to every important thoracic and abdominal viscus, and afferent stimuli traveling centralward over it are able to connect with the sensory portions of the fifth nerve and express pain in those portions of the head that are supplied by sensory filaments. Thus we may have headache from the heart, lung, stomach, intestine, liver, pancreas, kidney, colon, and many other organs. We can also have headache in which the afferent impulse traveling over the pelvic nerve from the pelvic viscera will be transferred by intercalated neurons in the cord from the sacral segments to the sensory roots of the fifth nerve in the medulla.

I personally have had a lifetime experience with headaches from ocular origin, having a mixed astigmatism and a severe muscle imbalance. During my last year in college and my first year in medicine I was obliged to have all my lessons read to me, and from that time until I was forty years of age I was never able to read more than fifteen minutes at a time without suffering from headache. Practically every day of my life during that period I had a headache of ocular origin.

Along with the headache there were some other very interesting syndromes that I might mention. I can appreciate what Gould wrote many years ago regarding reflexes from the eye. If, during those years of eye strain, I should happen to study too long at a time the following symptoms would arise: headache, nausea, hyperacidity, spastic colon with constipation. Men laughed at Gould when he wrote regarding these important reflexes from the eye, but I am sure that I can appreciate what he said.

Nasal and sinus troubles cause many headaches; there is no question about this. One of the speakers referred to the question of recurrent pain. I do not think clinicians fully appreciate the true

nature of recurrent pain. It matters not what organ may be the seat of pain, whether it be the eye, the sinuses, the thoracic, abdominal or pelvic viscera. As a result of the irritation which causes the pain, the threshold of response on the part of the sensory nerve becomes lowered and thus causes pain much easier than normal.

Whenever a condition arises which calls for extra physiological adjustment, such as worry, discontent, unhappiness, business disturbances, social excitement, overwork, changes in weather, or menstruation, the nerves affected are particularly prone to show pain even when there is no active disease in the organ from which the pain originally arose. As mentioned in my book on "Symptoms of Visceral Disease," these nerves become so sensitive to pain that they show symptoms on very slight stimulation. The ability of people to resist painful impulses differs greatly. Some individuals show pain on a very slight stimulation, others whose nerves are more stable may not have pain until the stimulation is quite severe.

In some recent clinics which I held, physicians brought a number of patients to be examined who were giving them trouble in diagnosis. They had some symptoms pointing toward tuberculosis, they were tired, worn out, showed slight temperatures; some were postinfluenzal cases. Upon examination of the patients we found one patient,—a mother of four or five children,—who following influenza had made slow recovery and suffered from pain and had a slight temperature. Another woman came who was having domestic difficulties, and following influenza she was unable to get back her equilibrium. Some of them complained of headaches, several of pains in the chest. In each instance the patient had not been able to make satisfactory convalescence. The real cause in these cases was that the influenza had overtopped the nerve equilibrium which under the best of conditions was very unstable, and up to that time the patient had not been able to regain balance.

In dealing with clinical symptoms, medical men must think of physiological balance more than we have been in the habit of thinking, and realize that it can be disturbed not only by disease in the individual's mechanical machine, such as the nose, throat, ears, eyes, etc., but also by disturbances in his emotional nature, or his psychical being. When the psychical being goes wrong it disturbs the physiological just as much as when the mechanical being goes wrong, and this should always be remembered in assessing the value of symptoms, for it has a great deal to do in determining the nature not only of headaches but of all disturbances of physiology, in fact all of the symptoms that come to us in the practice of medicine.

DR. W. A. MYERS, Kansas City: I count it a pleasure to hear a paper with an analysis of 610 cases of eye disease. It would be a fine thing if in this assembly and in all medical meetings such statistical evidence could be added to the "impressions" that we all have relative to any type of illness. I want to commend the doctor for this very fine paper on diseases of the eye and their relation to headache.

In my own experience as an internist I believe the most common types of headaches that I see are of ocular or cardiovascular origin. The former I refer to the oculist and they get a high percentage of relief. The next most common I believe are the types of vascular disturbances, but the relief that comes from the treatment of high blood pressure and arteriosclerosis is not completely satisfactory in many cases. Relative to the treatment of these vascular headaches, which in my experience are

largely occipital and frontal, it is pleasing at times to see how much relief can be secured temporarily, not by the usual salicylate treatment but by physical therapy, massage particularly. I mention this merely because of the fact that I believe we, as a profession, are liable to minimize this method of giving, not curative, but palliative care by the use of massage.

It is unfortunate that we have not had the other paper today on gynecological causes of headache. I know Dr. Mosher would have had some very fine things to present to us. This phase of the subject should not, however, go unnoticed. We have all seen certain cases with retroversion of the uterus or tumors of the pelvis that have been relieved perfectly of headaches by the care of these conditions. They are not common. One such case came to my attention recently, a woman with a very severe acute headache, who was relieved within the hour by replacement of a retroverted uterus and surgical care of the condition later entirely relieved the headache.

DR. P. F. TITTERINGTON, St. Louis: Frequently these patients are sent for X-ray to see if any valuable information can be found, and I am sorry to say that too many of our reports are negative. But there is one thing I do want to call attention to, and that is impacted third molars and supernumerary teeth. I have seen several cases in which these conditions were corrected with marked relief of the headache. In one case in particular we found a supernumerary bicuspid in the lower right that lay under the cuspid and two bicuspids. These three teeth had to be sacrificed to remove a supernumerary tooth, and after removal the headache was cured. I have seen several other cases that were greatly benefited by the correction of these conditions.

DR. T. J. BEATTIE, Kansas City: I do not know of any subject in medicine or surgery that should interest the general practitioner as well as the specialist as this subject of headache.

I have had many cases in my life and I have been taught to believe that the large percentage of cases of headache are symptomatic. A few months ago I had a young woman who was suffering a great deal from headache. It was unilateral. I was unable to find the cause and like my friend Dr. Myers I wanted to know if she had any bad teeth. She had some temperature almost constantly. X-ray showed that she had pus in the antrum of Highmore.

I had another interesting case not long ago. A gentleman was subject to periodical headaches. He had taken everything in the pharmacopeia to relieve it. I had operated on him for some trouble not necessary to mention here, but about every so often he would get a headache. One day he came to me and said, "I have been up to the Mayo Clinic, and after going over me very carefully one of the physicians told me there were 115 causes for headache and I didn't have any of them that could be found." That man did get relief. How? He had an intestinal disturbance which I found. He had a hyperacidity of the intestinal tract. Today he has a large bottle of tribasic citro carbonate on hand, and that is the only thing that has relieved him.

I have not had as good experience in my treatment of women as my friend Dr. Myers and I was very anxious to hear Dr. Mosher's paper and his solution of headaches from a gynecological origin but I tell you they are few and far between. When Dr. Myers spoke of the displacement of the uterus causing a headache I will have to say that was probably true but I don't believe it is directly from that cause. It acts as a factor on account of the condition of the nervous system.

DR. H. E. PINKERTON, Jefferson City: The gynecological part of the discussion is what I drove over here this morning to hear. I am rather disappointed in not hearing it as that happens to be the line I am most interested in.

The statement made just now that displacement of the uterus was not a cause of headache is well taken if qualified. Simple displacement of the uterus never causes trouble unless inflammation sets in. It is the inflammatory reaction following the congestion that causes the trouble. A pelvic abnormality that causes no inflammatory reaction seldom comes to your notice and then only incidentally. It is not a cause of complaint, and those who operate on retroflexed or retroverted uteri and expect to cure a headache when there is no sign of an inflammatory reaction as a result of this displacement are going to be disappointed.

It doesn't seem to be a referred pain. It is rather an exhaustion of the nervous system. The headache of a pelvic condition is a nervous exhaustion headache due to the drain on the nervous system. This drain lowers the general nerve balance, as Dr. Pottenger brought out very thoroughly, and the result of that is the headache.

DR. LAWRENCE POST, St. Louis, in closing: So many valuable points have been brought up in this discussion that I would merely mention one or two related to the eye part of the discussion.

The pain that is most valuable in giving us a hint as to whether the condition is ocular or not is the early pain. As Dr. Pottenger mentioned in his own case, it usually starts with frontal headache, then becomes occipital and then general. After the pain becomes severe, wherever it started, it soon becomes general.

The other point is one that Dr. Pottenger also made, and that is that the general condition of the patient has to be considered by the oculist as well as by those who are trying to relieve headaches from other points of view.

DR. A. W. PROETZ, St. Louis, in closing: I should like simply to reconcile a few statements made in the discussion and to bring out certain diagnostic points in regard to them.

Dr. Neilson says he believes most headaches arise in the head. I think he is right. Dr. Pottenger and Dr. Myers believe a great number of headaches have their origin outside of the head. I think they are right, too. When one stops to consider the intimate structure of the nose and of the dura, the two opinions are easily reconciled.

The nasal mucosa, for instance, is extremely sensitive. A great many end organs are distributed through it; in places it is a rather vascular structure, in other places a rather tensely knit one. The dura, as you know, is extremely sensitive to stretching and is well supplied with terminal fibers of the fifth nerve. It takes very little disturbance elsewhere in the body to upset the vascular tone and produce pain. Among these disturbances are the retroverted uterus, and other things that Dr. Pottenger mentioned. When one remembers that the only superficial sympathetic ganglion, the nasal ganglion, lies immediately under the mucosa of the nose and that the very slightest vasomotor changes are magnified in the nasal mucosa, so much so that they can be seen and demonstrated, it stands to reason that slight disturbances elsewhere, such as intestinal intoxications, displacement of the uterus, and what not, will find reflection in the nose and will cause a local headache.

Practitioners in making general examinations will do well to have a peep into the nose, if not for treatment, simply for an indication that elsewhere in the body some vasomotor disturbance is going on that needs attention.

THE LAYMAN'S ESTIMATE OF MEDICINE

WHAT IT IS. WHY IT IS. WHAT IT SHOULD BE*

F. M. POTTENGER, M.D. .

MONROVIA, CALIFORNIA

That the layman misses his old-time friend and counselor, the family physician, cannot be denied. That something has taken his place which is not altogether satisfactory is a well recognized fact. In the time allotted to me I might with profit discuss this situation and analyze the somewhat chaotic condition which exists in order that a better understanding may result.

I was brought up under the old regime, living in a country district where the physician was the center of the community intelligence. It was he who linked the families together. He alone traveled from one corner of the community to the other and knew the thoughts and aspirations of all. His advice and counsel was sought on domestic, business and community problems as well as on things medical. He was the one stable permanent force upon whom all could rely in either sickness or health. He was a power in the community in which he lived and occupied a position of honor and respect.

Compared with the teachings of the medical schools of today the education of the old family physician was meager, yet he knew what was known and made up his lack of exact knowledge of disease by his interest in the patient and the family. There must have been something unusual in this family physician. He must have supplied a real need, for he held this enviable position in the family and community for centuries. During the past thirty-five years the situation has changed and we have seen the family physician all but disappear. What has displaced him and who has taken his place? Is the public satisfied with the change? What are the advantages and the disadvantages of this changed situation?

The older members of the community do not quite understand why it is or what it is all about. They know things are different. They realize that medicine of today is not the medicine of yesterday; but why deprive them of the one who had so long been the center of community strength and the one person outside the family who was always willing to help and advise in sickness and trouble. They feel that something is wanting in human interest in the medicine of today, as compared with the family friend and adviser of their day. The younger generation, on the other hand, knows

the old family physician only as a tradition. But is this generation satisfied with what it is receiving from medical science?

On the other side of the question,—is medicine satisfied with what it is giving, and is it giving all that it can? That the newer medicine is better and more scientific than the old cannot be denied. That it is rendering a much greater service from the standpoint of understanding, diagnosing and applying effective remedies to disease cannot be gainsaid. There never was a time in the history of medicine when the physician was so well equipped to render service to those who are ill; and there never was a time when the public received such efficient service in the prevention and cure of disease as they are receiving today. In spite of this service, a gulf has been widening between those who receive the benefits, on the one hand, and those who have made them possible and who give them, on the other hand.

Where medicine seems to have erred was in thinking that laymen could be satisfied by rendering them an efficient program for the prevention of disease and giving them an accurate diagnosis and adequate treatment for illness. Medicine forgot that the success of the old family physician was partly a psychological one; that he made up in practical psychology what he lacked in science; that this had been medicine's sheet anchor for centuries and had made the physician a success regardless of the paucity of medical knowledge. That the doctor of the present day may not be giving as much in human interest as he should and as a result is failing to command the confidence and high regard which his predecessors enjoyed, is all too evident. That followers of cults with meager training—or none at all—who are in no wise able to cope with the big problems of disease are often accorded a place in the minds of laymen on a par with the well trained physician, is also true.

The family physician has from time immemorial been more than physician. He must remain so. He has been held in reverence somewhat as the minister or priest. People have surrounded him with a power more or less magical, and his works and accomplishments to his followers have ever borne the air of the mystical about them. When he entered the house in time of sickness, the sunshine came with him. His first concern was for the patient, his later for the disease. In fact, much of his ministrations to the sick took place without a diagnosis being made.

Contrast this attitude of primary and sincere interest in relieving the symptoms of the patient with the present day primary interest in diagnosing the disease and one sees that we

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have traveled far from the things that made our forebears successful and endeared them to the family. One enters the sick room today with thermometer, stethoscope, blood pressure apparatus, test tubes, blood counting chambers, bottles for urine and sputum, and swabs for bacterial specimens. Is it any wonder that the patient at times feels neglected and thinks that the physician's sole interest is in the disease?

"What did the doctor say?" is asked, one of the other, after the physician has left. "He did not say. He will have to wait for the completion of the examination." This may be a far more scientific procedure, but to the patient it often seems to be less satisfactory. The excuse is that there is so much for the physician to know today, if he will be accurate and avoid making false statements, he must of necessity wait until he has all necessary information. By this very carefulness he often creates an atmosphere of doubt and dissatisfaction. The physician of yore, as a rule, was more positive in his statement, and left little or no doubt that he was master of the situation. From the standpoint of scientific medicine he was very deficient, but he often did so much more to satisfy the patient and to build up for him a hopeful, helpful psychology that he aided the patient to overcome his disease without having the advantage of knowing its exact nature. I recall two very successful family practitioners who were loved and revered by the communities in which they lived as are few physicians whom I have known. One could always save his patients from pneumonia, the other from typhoid, if only they were called early enough. The people believed it too. These men never feared competition from irregular practitioners.

The layman, missing the psychological help of the old family physician and yearning for the positiveness that is usually given by one who has only a smattering of knowledge, often prefers the latter to the one who is capable of rendering more scientific service. Physicians have been too slow in recognizing the reason why laymen were straying away from a profession which they had held almost in sacred reverence from time immemorial. They were too busy with their scientific study to stop and analyze. Why should they when they alone had the right, based on scientific study, to hold themselves out as fitted to heal disease?

Recognizing the seriousness of the study of medicine, and being aware of the groundwork in the many basic sciences that are necessary in order to prepare one for an understanding of disease and the reactions caused by it in the patient, physicians knew that they who had given long years to its study were best prepared

for its practice. They further knew that even they at times fell short of having sufficient knowledge to warrant them in accepting the responsibility of caring for the health and life of people. So how could those of less attainment be entrusted with the lives and happiness of families? They could not understand the layman's attitude; why he sought help from those ill prepared to give it. They attempted to protect him from such incompetence. The layman misjudged his motives and resented the interference.

Laymen do not understand the handicaps under which physicians are working today, i. e., the great store of facts which have been recently added and are still being added to former knowledge, all of which must be mastered before adequate service can be rendered; the limited time to master these facts in such a way that they may be applied at the bedside; and the social and financial sacrifices that are made by men who practice medicine in order that they may give adequate service to their patients. The busy successful physician attends to his patients by day, and studies at night, while his friends in other callings are resting or playing the social game.

It takes a minimum of seven years of time, nine if a full college course is taken, and an average of from ten thousand to fifteen thousand dollars to prepare a boy for medicine. If we add to this the earnings that the boy might have had to his credit during the five years of medical training, we must increase the ten thousand dollars or fifteen thousand dollars by five thousand to seventy-five hundred dollars more. Thus the boy enters into his professional career late in life, with a large expenditure for preparation and then with a greater opportunity to serve than earn.

There are many phases to all subjects for investigation and naturally they are not all studied and developed *pari passu*. So has it been with medicine. The study of the structural side as represented by anatomy, pathologic anatomy and bacteriology far outdistanced the study of function. This is just now coming into its own and the individual with his hereditary tendencies, his nervous and endocrine control, the chemistry and physics of his cells and his psychological characteristics and their influence in determining the way the body acts in health and how these change its action during illness, are the subjects which are now engaging the attention of far-seeing medical men. There is no reason why the physician who understands disease cannot understand the patient who has it. On the other hand, he should understand him better than any one else, for the study of medicine requires the study of

both. The near future will be able to give to the people a new family physician in whom they can place their trust because of his scientific attainments, and who will merit their confidence because of his interest in them as thinking, hoping human beings. If one desires the opportunity to make money he should never enter upon the study of medicine, for its chief purpose and opportunity is for service. To be sure, a few physicians make good earnings but they are not the rule.

The medical profession should be measured according to its accomplishments. While physicians may have seemed to fail in recent years to give the individual and the family the careful consideration that the beloved family physician of yore gave them, yet they have been busy, just the same, looking after the interests of the public. The public while working and sleeping has been profiting by his studies. Lives have been prolonged, illness has been reduced in amount, and methods of cure have been discovered, all for the public benefit and without the public being aware of what was being accomplished.

The old-time family physician had to pay attention to the patient because he had few facts regarding disease. The study of microscopic pathology and bacteriology was not required of medical students until near the end of the nineteenth century. The causes of bacterial diseases began to be known only at that time. The tubercle bacillus was first described in 1882; the causative germ for cholera in 1883; typhoid in 1880, and diphtheria in 1883 and 1884. As soon as we knew the specific agents which caused bacterial diseases we began to institute methods for their prevention. We have recently learned much about the nature of metabolic diseases and are now establishing measures which should lessen their prevalence; the same with diseases due to deficient diet, lack of vitamins and salts, the so-called deficiency diseases. Organic lesions of the heart and arteries and cancer are being approached with confidence.

Medicine is not only attempting to prevent all preventable diseases but, when present, it is attempting to cure them. Is it any wonder, with all this new knowledge thrown upon the physician, that he for a time directed his attention toward the study of disease to the apparent neglect of the patient? Every year has brought increased knowledge of this disease and that one, all of which has added to his required study and made medicine bigger and broader.

This rapid development in knowledge of diseases was accompanied by a realization of the

inability of one man being able to cover the entire subject; so specialization arose. Men began to study intently the manner in which disease affected different organs and this has multiplied now until every organ has been made the subject of special study. Now, having arrived at a place where we have a fair understanding of the great majority of common diseases, and having studied each organ intently from the standpoint of specialization and learned the manner in which each one is affected by various diseases, we come, to the crowning study of medicine—man: man in all his complexity and in all his variation in reaction in health and disease.

For this study we need a wide approach and a profundity of knowledge greater than that necessary for the study of diseases. If we would understand man and how he reacts to disease we must understand the body that he inherits from his ancestors. We must know its anatomy, its physiology, its biochemistry and its biophysics, for as he varies in one or more of these so will he vary in his reaction to disease. We must understand his endocrine dominance and his nervous balance. We must understand him as a functioning machine and as a psychic being.

From the progress that we have made in a better knowledge of diseases and their nature, the general public is profiting beyond what it could hope.

This may be illustrated by the statistics of Chicago, as given by Hoffman,¹ which may be taken as fairly representing the larger cities of the country. His data arranged in the following table show a comparison of the number of deaths in certain decades of the nineteenth century with certain decades or years of the present century.

Table I. *Comparative Mortality From Certain Diseases During Certain Periods of the Nineteenth and Twentieth Centuries for the City of Chicago*

Disease	Date	Mortality per 100,000	
		19th century	20th century
Typhoid	1871-80	85.2	1911-20 5.4
Tuberculosis	1871-80	222.9	1920 91.1
Smallpox	1861-70	36.3	1911-20 .1
Cholera	1851-60	328.9	1900-20 0.
Diphtheria	1881-90	579.5	1920 120.8
Scarlet fever	1871-78	629.2	1920 34.7
Measles	1861-70	124.4	1920 16.8
Whooping cough	1861-70	111.8	1911-20 28.5

This table shows that where one person died of the following diseases during the period mentioned in the present century, there died during the period mentioned in the preceding century as follows: Typhoid, 16; tuberculosis,

1. Hoffman, Frederick L.: *American Mortality Progress During the Last Half Century*. Chapter in *Half Century of Health*, edited by M. P. Ravenel, Am. Public Health Assn., New York, 1921, p. 110.

2.3; smallpox, 363; diphtheria, 5; scarlet fever, 18; measles, 7; whooping cough, 4; and while cholera caused 328.9 deaths per 100,000 population in 1851-60 there has not been a single death since 1871.

What a record of achievement. What comfort to every mother to know that the dread diphtheria, scarlet fever, measles and whooping cough have been shorn of much of their terror. What a comfort to adults to know that typhoid, tuberculosis and smallpox are no longer the dread diseases of former years, and that cholera has practically passed into oblivion. We can also add to this the conquering of yellow fever and malaria which makes the Southern states and tropics secure from recurrent devastation.

The achievement in therapy is no less gratifying. I shall mention only a few diseases. Tuberculosis, which was looked upon as hopeless except in the rarest instances until the middle of the last century, has yielded to modern knowledge; and today we can say that practically all patients suffering from early clinical tuberculosis can be restored to health by the application of carefully devised methods of treatment. The death rate from diphtheria in various epidemics prior to the use of antitoxin ran from thirty to fifty per cent., and even as high as sixty and seventy per cent. Since the use of antitoxin it has been reduced to about fifteen per cent., and if used early, in some epidemics, it has been as low as seven and eight per cent.

Diabetes, until the recent discovery of insulin, meant invalidism and death to a very large group of patients who can today be kept in condition of comfort and usefulness.

Our comprehension of the nature of thyroid lesions has enabled us to relieve those who are suffering from either excessive or deficient thyroid secretion.

Pernicious anemia which, until recently, was always fatal, has now yielded to the administration of liver.

The diarrheas of infancy and young children have been robbed of their terrors through clean milk and mothers no longer fear the loss of their babies during the second summer.

Rickets, which caused deformity, weakened the child, and made it a prey to other diseases, is now shown to be yielding to light and proper diet.

Surgical diseases have had their accompanying mortality reduced to a minimum by improved technic and careful attention to the patient.

In the lifetime of those now living much of

this achievement has taken place. Health and happiness to an unprecedented and also to an unappreciated degree are now taking the place of illness and distress in all homes. Death is inevitable, yet it is rarely welcome unless it comes to terminate intense suffering of a nature that cannot be relieved, or a life of helplessness and incapacity. So we bid welcome to the increase in the normal span of life which has taken place during recent years. During the time of those now living it has increased from 35 to 45 years and from 45 to 55 years, and now it is making the next decade.

While you may miss what the family physician of yore gave you, yet the medical profession has been guarding your health and saving you from disease and suffering, and you have gone ahead enjoying these blessings without stopping to think who made them possible.

We speak in glowing terms of the advancement in transportation, of transmission of intelligence, of the hundreds of new uses of chemistry, physics and electricity. We accept the past fifty years as being truly an age of wonder in all material advancement. The achievement in the understanding of the nature of disease, its cause, its prevention, and its cure, takes second place to the advancement in none of these commercial lines.

Years have been added to the span of life along with a reduced incidence of illness and an increased efficiency, yet this accomplishment suffers relatively because health which has never been lost is not so well appreciated. A greater per cent. of cures are now obtained in serious illnesses and the distress incident to disease is greatly reduced as compared with former times; yet this is unappreciated because of the suffering which is still experienced, the loss of time entailed and the cost of the illness.

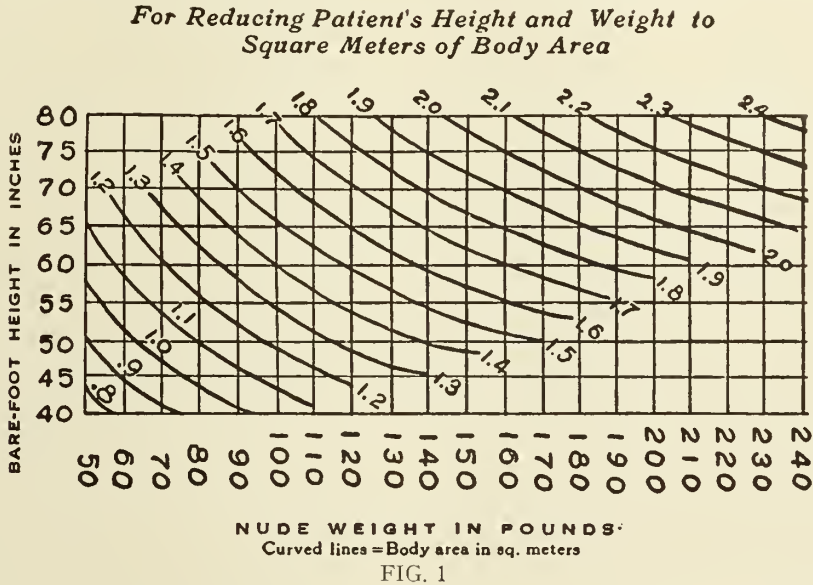
The medical profession has accomplished much. It will accomplish more in the future. It will become a more rounded profession. The members of our profession who have the clearest vision are already attacking those problems which seem to be at the root of our greatest deficiencies, and the next fifty years should produce a profession capable of rendering a greater and more satisfying service because it will understand the patient and give him an intelligent consideration that he has never before received. The future practitioner of medicine should be all that the family physician of yore was and more, because of his greater knowledge of both the disease and the patient, and because of his wider sympathy built on an intelligent understanding of the patient as a thinking, hoping human being.

PRESENT DAY TREATMENT OF DIABETES MELLITUS*

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The discovery of insulin in 1922 introduced quite a radical change in the management of diabetes, but the full effect of this wonderful remedy on the treatment of that disease was not at once realized. During the five years intervening since the introduction of insulin, there has occurred a gradual complete revision of the treatment of diabetes, the end results of which thus far attained we shall endeavor to

and weight of the patient. A quantitative estimation of the amount of sugar in the 24-hour urine is made. The urine is tested chemically for albumin, diacetic acid and acetone, and examined microscopically for casts, etc. The blood is tested for sugar content and N. P. N. The Wassermann is not neglected, for a positive Wassermann calls for antiluetic measures in conjunction with the usual diabetic treatment. Next we compute by the following method what we call "the estimated proper daily calorie requirement" of the patient. From the patient's height and weight you get his body



describe for the benefit of those not having the time, or the inclination perhaps, to review at first hand the very voluminous literature on the subject. Mainly we shall outline the manner in which it has been found efficient and time saving to handle diabetes at St. Mary's Infirmary, a department of the St. Louis University School of Medicine. While the underlying principles of the treatment of the disease are the same the details vary at different clinics, depending no doubt on the different conditions under which the clinics work. At St. Mary's we try as much as safety permits to shorten the patient's stay at the hospital, for our clientele so far exceeds in size our hospital capacity that we always have a distressingly large waiting list. When a diabetic free from dangerous complications is admitted to the Infirmary, first of all a detailed history of the case is written and a careful physical examination of the patient made. The latter includes taking the height

area in meters by means of a Dubois curve chart. (Fig. 1.) The area you multiply by the average number of calories per hour per square meter consumed by a person in health of the same age and sex as the patient. (Table 1.) The quotient obtained you in turn multiply by 24. This gives you the patient's 24-

Table 1. Average Rates of Persons in Health, in Calories per Hour per Square Meter Body Area (From Aub and Dubois)

Age	Males	Females
6-8	58.0	58.0
8-10	54.0	54.0
10-12	52.0	50.0
12-14	50.0	46.0
14-16	46.0	43.0
16-18	43.0	40.0
18-20	41.0	38.0
20-30	39.5	37.5
30-40	39.5	36.5
40-50	38.5	36.0
50-60	37.5	35.0
60-70	36.5	34.0
70-80	35.5	33.0

hour basal calorie requirement, which means the number of calories of food the patient must consume in 24 hours while perfectly at rest in bed, if we want him to keep his weight. Of course no one can long fulfil these conditions.

* From the service of St. Mary's Infirmary, a Department of St. Louis University School of Medicine.

Even so-called bedridden patients must get 20 per cent. over their basal calorie requirement to keep their weight. For those of sedentary occupations we add 30 per cent., for those leading a more active life 40 or 50 per cent. to their basal calories to arrive at their "estimated proper daily calorie requirement." If the patient has fever or hyperthyroidism more calories are added to cover the increase of fuel needed. If the patient is much under weight he needs about 400 more daily calories in order to gain weight. If he is much overweight a like number of calories must be deducted from what we would otherwise give him as his daily calorie allowance, in order that he may lose weight. If the patient's blood sugar is not over 200 mg. fasting when admitted to the hospital, we put him for four days on his estimated proper daily calorie requirement computed as above outlined. If after four days the urine is sugar free and the blood sugar within normal limits, we regard the case as amenable to dietetic measures alone and treat it that way. We assume of course that the patient's body weight behaves as we want it to. If, on the other hand, the diet as calculated above fails to free the urine from sugar and to bring the blood sugar to the proper level, insulin injections must be added to the dietetic measures. Likewise, if on admission the patient's fasting blood sugar is 250 mg. or over we are convinced that for a time at least insulin injections will be needed to supplement his dietetic treatment. Accordingly, we put the patient on his estimated proper calorie allowance, divided into three meals in such a way that he gets 50 per cent. of his apportioned 24-hour carbohydrate for the midday meal, and start insulin by injecting from 5 to 10 units one-half hour before that meal. The insulin dose is increased by 2 or 3 units daily until the urine is sugar free and the blood sugar is satisfactory, or until a daily dose of 25 units is reached and proves unavailing. If we have to go above 25 units of insulin a day we employ two doses of the drug a day, giving one dose a half hour before breakfast and one dose a half hour before supper, the former dose being preferably 5 units larger than the latter. At the same time we give 40 per cent. of the carbohydrate content of the daily diet for breakfast, 20 per cent. for the midday meal and 40 per cent. for supper. The insulin doses are raised gradually until all the urine becomes sugar free. By qualitative tests for sugar of the urine passed from the time of one insulin injection until the next insulin injection, we see which insulin dose needs changing or which meal needs altering in regard to its carbohydrate content. When both urine samples are

sugar free another blood sugar is taken. If the fasting blood sugar before breakfast is still too high we gradually raise the doses of insulin until the blood sugar level is satisfactory. Should the amount of insulin required for one day exceed 40 units it is best to make three daily doses of it. The dose before breakfast should be the largest, the one before supper the next in size, and the one before the midday meal the smallest. The carbohydrate content of the daily food should now be apportioned equally for the three daily meals. In very severe cases of diabetes it may be necessary to add a fourth small dose of insulin at about midnight. In that case a small portion of the daily food allowance must be saved during the day and given before the midnight insulin injection. Exceptionally, it may be necessary in bad cases to give more than 25 units of insulin at one injection. These cases always require at least three daily insulin doses. Thus we have one case now on 30 units of insulin before breakfast, 12 before the midday meal, and 20 units before supper.

The question naturally suggests itself, how low must a blood sugar be before you consider it satisfactory? That depends on how amenable the blood sugar of that patient is to insulin. When only small doses of insulin are necessary we aim to get the fasting blood sugar before breakfast to a point between 110 and 120 mg. per 100 cc. As long as the fasting blood sugar exceeds 120 mg. we raise the insulin; if it is below 110 mg. we lower the insulin dosage. When, however, it would require very large insulin doses to attain a normal fasting blood sugar we are satisfied with a blood sugar of 140 mg. before breakfast. These cases are always on at least two daily insulin doses and therefore are getting a large dose before breakfast. Under those conditions a blood sugar of 140 mg. before breakfast probably means a normal blood sugar in the late forenoon.

Let us now consider the diet a little more in detail. Suppose by the reasoning above outlined we have concluded that our patient should have 2000 calories a day. How shall we apportion the food yielding 2000 calories among the proteins, carbohydrates and fats? The daily protein allowance is arbitrarily fixed at 1 G. per kilo of the patient's normal body weight, not of his actual weight. For a patient whose normal weight is 154 pounds, i. e. 70 kilos, we would therefore prescribe 70 G. of protein a day. The daily carbohydrate allowance we make at least 20 G. more than the protein, i. e. 90 G. Seventy grams of protein and 90 G. of carbohydrate will furnish $70 \times 4 + 90 \times 4$ or 640 calories a day. Deducting this amount

from the total 2000 daily calories to be given leaves 1360 calories to be furnished by the fat content of the diet. To furnish 1360 calories will require $1360 \div 9$, or 151 G. of fat. In some cases we have made the number of grams of carbohydrate in the diet exceed the number of grams of protein by 30 and even more, correspondingly reducing the fat content. This is in accord with the general tendency in all clinics to raise the carbohydrate factor and lower the fat content of diabetic diets.

While the patient is in the hospital we order any combination of food principles we see fit, and the diet kitchen will serve the food that will yield them. But when the patient is left to his own resources at home the matter is not so simple. Therefore, before he is discharged, a patient or some member of his household is taught how to arrange his diet, and if he uses insulin, how to administer that. In regard to the diet, we hand the patient a sample menu which gives in grams the amount of meat, egg, bread, butter, vegetable, fruit, etc., he shall eat in one day, properly divided into three meals. We likewise give him a food analysis table which gives in grams per 100 grams the protein, carbohydrate, and fat content of the common articles of food. The vegetables are as far as possible arranged in groups containing an equal amount of carbohydrate, 3 per cent. group, 6 per cent. group, etc. The fruits are similarly classified. The meats are grouped according to the per cent. of protein and fat they contain. Any time the patient desires a change of vegetables of the 3 per cent. group he can swap off the amount of vegetable which he is allowed of that group for an equal weight of any other vegetable of the same group or for half the weight of a vegetable of the 6 per cent. group, and vice versa. The fruit in the diet can be varied in a similar manner. The principal varying is done in the carbohydrate quota furnished by the 3 and 6 per cent. vegetables and the 10 and 15 per cent. fruits. The protein is mainly furnished by staple articles of food as the meats and eggs. This needs little varying. The fat likewise comes nearly always from the same sources, as butter, bacon, eggs, and meat. Therefore the protein and fat in the diet need little alteration. Likewise the quota of carbohydrate in the menu which is derived from gruels, cereals and bread can be kept pretty constant, at least at first, until by experience the patient becomes better grounded in dietetics. As everybody likes bread and can take it indefinitely in stated amounts we have always given a constant amount of bread, even though it be small, in every menu. We have had little success with

bread substitutes and nonnutrients as our patients soon tired of them.

Patients on large doses of insulin are required to buy a gram scales and weigh their food accurately. Patients on small or moderate doses of insulin are taught to estimate their diet approximately by common measurements, such as tablespoonfuls, saucerfuls, average servings, pieces of bread of certain dimension, etc. This seems to be accurate enough for them. Of course we see to it that the diet contains the proper vitamins and minerals. While patients are taught to test their own urine for sugar they are told to come back to the clinic about once a month for a blood sugar estimation and a readjustment of diet and insulin as indicated.

In many cases the carbohydrate tolerance increases under treatment permitting a lessening of the insulin dosage. Some few even improve so much that after a time they can stop insulin altogether.

Diabetic Coma.—The present treatment of diabetic coma differs little from that recommended shortly after the discovery of insulin. In deep coma initial doses of 40 or 50 units of insulin are given, part in the vein and part hypodermically. After three hours, if the coma remains unchanged and the urine shows much sugar and acetone while the blood sugar remains high and the CO_2 capacity low, half the initial dose of insulin is administered. On the other hand, should the urine show less sugar and acetone and the blood sugar decrease smaller doses of insulin are indicated. Should the urine become completely sugar and acetone free and the blood sugar normal or less we stop insulin altogether. After another three hour interval the urine and blood are again examined and insulin is given or withheld as seems indicated. After the first dose of insulin it is safest to buffer each insulin injection with 1 gram of glucose for each unit of insulin used. The glucose is preferably given by mouth as glucose lemonade. If the patient cannot swallow you may succeed in giving it by the stomach tube. If the patient vomits the glucose must be introduced by vein. Of course the administration of fluids is pushed. If you cannot get in enough fluids by mouth use the hypodermic or intravenous method. Digitalis and other heart remedies are administered when necessary.

Joslin¹ in his latest book recommends that diabetic coma be treated by 20 units of insulin every 15, 30 or 60 minutes with no glucose to protect (!) it, unless hypoglycemia

1. Joslin, Elliott P.: *Treatment of Diabetes Mellitus*, Philadelphia, Lea and Febiger, 1928.

supervene. He relies on frequent urine and blood tests to guide him in the insulin dosage and to warn him of any impending hypoglycemia. Fifty grams of carbohydrate by mouth are given as soon as the patient can swallow. Glucose by vein is only used when there is a low blood sugar and the patient vomits. In the first 24 hours 133 units of insulin are usually required. What is safe for Joslin with his skill and equipment might be dangerous in other hands.

Diabetic Coma vs. Insulin Coma.—It sometimes happens that a patient with severe diabetes and taking large amounts of insulin goes into coma. His coma might be due to too much insulin causing very low blood sugar or it may be due to too little insulin dosage allowing acidosis, or better called ketosis, to occur. In the first contingency you must give at once glucose by mouth if the patient can swallow, otherwise by stomach tube or intravenously.

In the second condition large doses of insulin should be given as advised in any diabetic coma. What will be life saving in one condition may be fatal in the other condition. A differential diagnosis must and can be made at once. Draw off the urine. If it is sugar and acetone free the coma is due to hypoglycemia from too much insulin. If the urine is loaded with sugar and acetone, ketosis is present from too little insulin. Moreover the acetone odor of the breath is present in ketosis coma but absent in hypoglycemia coma. A caution to be observed is to be sure that the urine drawn off and tested has been secreted by the kidneys since the coma came on. Urine mixed with urine that was present in the bladder before the comatose condition supervened might of course give the wrong clue to the treatment. Also, we must not forget that patients suffering from diabetes may contract a coma due to neither ketosis or hypoglycemia. Like other people they are subject to coma from apoplexy, uremia, drugs, alcohol, and many other causes.

The Successful Treatment of Diabetes by Remedies Administered by Mouth.—"Tis a consummation devoutly to be wished." But it has not happened as yet. Insulin is a protein and when given by mouth is digested in the gastro-intestinal tract. It is thus rendered therapeutically inactive.

Synthalin, a new synthetic product, when orally administered in diabetes will lower the blood sugar, but seemingly not in a physiological way for it is liable to cause damage to the stomach, intestines and liver.

Myrtillin, an extract of blueberry leaf, promises better. At any rate it is harmless. Allen has had extensive experience with it in the treatment of diabetes. Giving it by mouth

in daily gram doses he finds, in the case of diabetic patients whose blood sugar has first been made normal by insulin injections, that myrtillin will after being administered together with insulin for four days enable the insulin medication to be stopped in mild cases and diminished as to dosage in moderately severe ones. Myrtillin is not yet on the market. Squibb & Sons have been good enough to send us some for experimental purposes. Our experience with it has not been extensive enough to warrant giving an opinion. Both synthalin and myrtillin are too slow in action to be of any use in coma.

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THE MEDICAL STOMACH*

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In the discussion of the "medical stomach" I choose to include the various gastric complaints, both motor and secretory, and also the lesions which with medical treatment give as good end results as if surgically treated.

There will always be exponents of the medical and the surgical treatment of gastric and duodenal ulcer, with statistics and claims to prove each side.

Life insurance companies view all things in terms of life expectancy. The statistics obtained from eighteen of the larger companies in regard to peptic and duodenal ulcers, are of interest. Several questions were asked and statistics obtained which govern the policy of these companies in regard to these lesions: (1) What kind of insurance risks were patients with a history of peptic ulcer considered? (2) Which if either of the two types of peptic ulcer,—gastric or duodenal—was considered the better insurance risk? (3) Was favor shown by the companies to any particular type of therapy,—medical or surgical? (4) (And the most important)—on exactly what information and data were the actions and decisions of the insurance companies on the above questions based?

(a) Three of the eighteen would not consider peptic ulcer under any circumstances. Three other companies would consider them only on a sub-standard basis no matter how far distant the last ulcer symptom. This means that 33 1/3 per cent. of the companies considered them unfavorably, regardless of therapy.

(b) As was to be expected, they considered the duodenal ulcer the better risk. Seven com-

*Read at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

panies refused gastric ulcer cases entirely as compared with three companies which refused duodenal ulcer. In point of time considered necessary to elapse before counting an ulcer cured, the duodenal ulcer was favored by a seven to two majority at the end of two years. That is, seven companies accepted as standard those patients who had had duodenal ulcer and who had postoperatively remained symptom free for two years, while only two companies accepted gastric ulcer on the same basis. (c) Quite a definite preference is shown to the surgically treated ulcer case, as a number accepted operated gastric ulcer and only a few refused. Dr. Frank Smithies reports 77 per cent. cure in medically treated peptic ulcers. Balfour, 1919, brought to the medical profession the result of a survey made by representatives of the American Actuarial Society from a study of five hundred and twenty-one cases of gastric ulcer and one thousand and fifty-one cases of duodenal ulcer, which had been brought to operation, with the following findings: (1) The immediate operative mortality in gastric ulcer was 4.5 per cent. and in duodenal ulcer 2 per cent. (2) The average of a period of 36 years of observation on these cases showed that 17 per cent. had died in that time following operation for gastric ulcer and 5 per cent. had died following operation for duodenal ulcer. (3) A comparison with a like number of persons selected at random from the general population of the same age and sex showed a mortality, exclusive of immediate operative mortality, two and two-thirds greater in the operated individual.

I think in the mild or early cases the treatment can always be medical. In those with complications—repeated hemorrhages, stenosis and perforations—the treatment should be surgical.

The difficulty in the diagnosis of the stomach complaints comes from the many extragastric conditions which produce functional disturbances. Diseases of the stomach proper are few in number and the majority of these are so clear cut and well defined clinically that a diagnosis is comparatively easy. To classify the medical stomach would be textbook but to mention your daily problems in gastric diagnosis is always of interest.

The most common complaint is that of indigestion. This term belongs to the triad, mentioned individually and meaning the same, by the layman, viz: Indigestion, the term used by the novice; dyspepsia, the term used by the chronic; gastritis, the term used by the *much treated one*.

The word indigestion is not diagnostic as it covers rather than specifies one of the four usually involved areas: stomach, gallbladder, colon and appendix; also in a great number of glandular deficiencies the complaint is indigestion. The average patient knows whether his digestion is deranged only through stomach sensations.

The neurotic, with his misunderstanding of medicine, has abused himself in a self-applied dietary regimen until his disease is malnutrition. The relation of extragastric lesions to indigestion has been responsible for one or more operations, really making a classification of medical or surgical indigestion necessary. As Ryle has said, "The surgical type represents the dyspepsia in which surgery may give or help to give relief, but too often it means the dyspepsia which results from surgical interference."

The motor status of a stomach is really of more consequence than the secretory. Taylor has said, "We have duplicate plants for chemical digestion but only one motor path between them."

Acute indigestion.—Usually the onset is sudden, with or without nausea and vomiting, with abdominal cramps. Can be due to duodenal ulcer with or without perforation, intestinal obstruction, gallbladder disease, acute pancreatitis, rupture of spleen or mesenteric thrombosis, inflammatory pelvic disease, renal, ureteral or bladder stone, acute appendicitis, ruptured ectopic pregnancy, spastic colitis, malaria or pneumonia. No patient dies of acute indigestion for an autopsy discloses the pathology placed in the above mentioned possibilities.

Chronic indigestion.—The patient complains of daily attacks with epigastric discomfort or pain, gas, belching, constipation, tenderness (shifting), with a history of irregularity of symptoms, with nausea, sometimes vomiting, which is oftentimes induced, sleeplessness, fatigue with frequently a cardiac suspicion, i. e. palpitation or irregularity and pressure. A large number of these patients enter the class of the chronic invalids.

These patients become users of laxatives and the advocates, temporarily, of fruits, nuts, bran or whatever they just happen to see advertised.

Pain.—As a symptom does pain mean over distention; does it interfere with work; does it waken him during the night; have similar pains appeared before; does the pain move about; does food relieve it; how soon after eating is the pain increased or relieved?

The so-called hunger pain is not always an ulcer but a rapidly emptying stomach with an irritable duodenum. If the complaint be of vomiting, determine whether spontaneous or induced. If immediately after a meal it may be a neurosis, although lesions of the esophagus or pylorospasm must be thought of. In sick headaches with vomiting determine which precedes. In epilepsy the headache comes first.

Nausea.—A prominent complaint although this symptom is not constant in ulcers, cholecystitis or cancer but oftentimes a primary sign in subacute appendicitis, oophoritis, salpingitis, intestinal obstruction and always a prized symptom in the neurotic individual.

Heartburn.—This does not mean an excess of acid in the stomach, but does mean a regurgitation of food into the esophagus. Usually this patient carries soda for relief and this alone should make one think of a duodenal ulcer or gallbladder.

Feeling of Fullness.—After a few mouthfuls of food, regardless of the size of the stomach fullness is usually due to lower tract lesions with spasms above, usually the appendix. Food relief may be exhibited in gastric spasm due to extragastric lesion because food has a tendency to cause the stomach to return to normal rhythm.

Appetite.—Usually the appetite is good in ulcer and cholecystitis, not good in neurosis, pelvic disease, appendicitis, tuberculosis, hypertension and cancer. In cancer we find that peculiar distaste for meat.

Kinds of food.—Does he eat too fast, when does he eat, how does he eat?

Cancer of the stomach.—In 1923 the recorded deaths from cancer in the registration area of the United States were 86,754. Of this number 38.13 per cent. were from cancer of the stomach and liver. Primary cancer of the liver is rare so the majority of the cases reported were stomach. This is an appalling situation and makes early diagnosis of cancer of the stomach vital.

The symptoms of gastric cancer are irregular and not constant in any series of cases. In fact, hardly any two cases present the same complaint. In the individual over 30 a history of several months' duration with a filling defect, with a negative Wassermann, cancer should be the diagnosis. The Mayo Clinic claims 68 per cent. of gastric cancers result from ulcer, Dr. Smithies 42 per cent., Finney 10 to 15 per cent.

THE SURGICAL STOMACH*

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The year 1881 marks the beginning of gastric surgery when Billroth removed the distal end of the stomach and Wölfler performed the first successful gastroenterostomy for ulcers of the stomach and duodenum. Since that time many modifications have been advocated with the hope that the mortality and complications could be reduced to a fraction of a per cent. but none has been successful. The surgeons of each group perform their particular operation for a given condition. When my good friend Clendenning stated in his recent book that a well-taken history constituted 90 per cent. of a diagnosis, I feel certain he was thinking of the conditions that exist in the upper abdomen. Assuming a diagnosis of ulcer has been made, we insist upon the hospitalization of all ulcer patients for three reasons: First, for the benefit derived from rest; second, enforced education pertaining to diet and medication; third, observation to determine location and severity.

The cases we consider surgical are:

First, when the symptoms have not been relieved in ten days.

Second, when the occult blood cannot be made to disappear in fourteen days.

Third, perforation.

Fourth, pyloric stenosis.

Fifth, economic conditions.

Perforation in the majority of cases is the result of an ulcer weakening the stomach or the duodenal wall and peritoneum to such an extent that intragastric or intraduodenal pressure produces an actual blow-out, allowing the contents slowly to escape into the peritoneal cavity. The family doctor is immediately called and told the patient was seized with a sudden excruciating pain in the stomach. Upon his arrival he recognizes shock, cold clammy skin, thin rapid pulse, abdomen distended and rigid. A diagnosis of perforation is made, a hurried trip to a hospital for the relief of the condition by a surgical procedure before twelve hours have elapsed, as each hour after that time means an increasingly high mortality rate. The majority of perforations occur anteriorly which simplifies the operation, as suturing and covering by omentum will close the opening. If it be on the posterior surface, the operation is complicated by having to open the stomach anteriorly, passing the hand through the incised gastrocolic omentum into the lesser peritoneal cavity, and

invaginating the posterior gastric wall so its entire surface may be inspected. The method of closure can then be decided upon. If the perforation be in the duodenum, the infiltration may be so extensive that closure may obliterate the lumen. If such be the case, a gastroenterostomy will be necessary. In all cases a drain is placed in the pelvis in an effort to prevent peritonitis.

Pyloric Stenosis.—Congenital pyloric stenosis is the result of a superpyloric muscle aggravated by a state of spasticity, preventing the stomach from emptying into the duodenum, manifested by continual vomiting of the infant during the first week of life. It is corrected by a longitudinal incision through the serosa and muscularis down to but not through the mucosa.

Pyloric stenosis in the adult presents another picture. Several years ago I unhesitatingly did gastroenterostomies for this condition. The results were marvelous, but I must admit that some of the patients were subjected to great danger, for today our method previously described in determining whether a condition is medical or surgical has revealed that stenosis, under medical management, has reopened—remained opened with a total subsidence of obstructive and ulcer symptoms in nearly every case. True, a few returned the second and occasionally the third time with slight symptoms of recurrence, but the real enlightenment took place when we decided upon cooperative observation.

Economic Conditions.—Given a man who cannot conform to the medical and dietary treatment, this patent can be returned to his activities in from three to four weeks, provided the ulcer is so situated that its removal will not jeopardize his life, plus a gastroenterostomy. Is our surgery to be radical or conservative? Radical surgery is represented by pylorectomy and partial gastrectomy with its ten per cent. mortality, and complete cure of the remaining ninety per cent., while conservative surgery is represented by excision of the ulcer and gastroenterostomy with its one to two per cent. mortality, a failure to cure in ten per cent. and an incidence of five per cent. gastrojejunal or jejunal ulcers. These figures were obtained from our larger clinics but I cannot agree with the five per cent. gastrojejunal or jejunal ulcers, as I have not had a gastrojejunal or jejunal ulcer following gastroenterostomy. I attribute this to the absence of gastrointestinal clamps, as I have always used Allis forceps to approximate stomach and bowel thus removing all possibility of injuring blood vessels, also ligating the bleeding vessels as they are cut.

Another condition with which we have to

deal is gastropptosis. The stomach may descend into the pelvis and cause no symptoms, or it may descend one-half that distance and by virtue of a kinking of the duodenum, produce evidence of obstruction not amenable to rest in bed with forced feeding. Shortening the gastrohepatic omentum or suturing the stomach to the abdominal wall has proven successful in many cases, while in others the pain has been so severe that the stomach has had to be released. The problem remains unsolved but the extreme cases demand that some method of attack be made.

Paget once said it was his opinion that we would all have cancer if we lived long enough. Since 1850 the expected length of life has increased eighteen years. Fortunately, gastric ulcer is a comparatively rare disease, and it is also fortunate that duodenal ulcer, which is ten times as common as gastric, seldom if ever develops into cancer. Unfortunately, cancer automatically anesthetizes the part involved, preventing its presence being known until, by interference with the function of the stomach, slight distress is noticed. If at this time the doctor, surgeon, X-ray and laboratory department will combine their efforts, much can be accomplished by surgery, as the distal end of the stomach can be resected, the stomach and small intestine connected by a Billroth, Polya or gastroenterostomy, which consumes from one hour and fifteen minutes to one hour and thirty minutes with a mortality of ten per cent. Delay means involvement of the glands or symptoms of obstruction, if the new growth is so situated that it interferes with the passage of the stomach contents into the duodenum. Any attempt to cure these patients by removal of the malignancy will only increase the mortality rate to an alarming point, while the ones who successfully get by the operation will eventually die from cancer. Is it not better then to do a gastroenterostomy with a mortality rate almost nil, with the comfort they would have enjoyed had the radical operation been performed? These patients cannot be cured but they are entitled to relief and to as many months' extension as is in our power to give them. If the people will consult their doctor at the time of their first gastric distress, and if the doctor cannot cause the symptoms to disappear in from one to two weeks, advise them of the possibilities of cancer, also of the necessity of employing every known means to determine a diagnosis, then and not until then will the death rate be lowered, as one-third of all cancers affect the stomach. Gastric surgery is designed to meet many difficulties, and there are many types of operation in use because no one of them suits every surgeon. If each sur-

geon would determine which are the best suited to his own abilities and limitations, the general mortality would immediately fall. There is only one operation for a given surgeon, with a given patient, in dealing with a given pathological condition.

810 Lathrop Building.

DISCUSSION

DR. E. LEE MILLER, Kansas City: If I had a duodenal ulcer and I was certain that the diagnosis would be confirmed by the symptomatology, had further confirmation through an X-ray, I would hunt the best medical adviser in the care and treatment of that particular lesion.

I, being a surgeon, will have to give the medical man the credit of saying that every peptic ulcer should have the advantage in the beginning of a medical diagnosis and routine medical care. A vast majority of people presenting the syndrome and findings coincident with the duodenal lesion will be relieved and stay relieved if they will follow the advice of their medical adviser.

There are, however, considerable numbers of cases that follow this regime, and are not permanently relieved. Some complication embarrasses the treatment to the point where some other measure must be utilized for the permanent relief of the lesion.

If an individual has endured and been satisfied with four or five medical cures and then has recurrences periodically he must seek relief in some more serious procedure. The individual who is bleeding, whose X-ray demonstrates infiltration of surrounding tissues and complicating symptomatology, what is to be done with him? Also the individuals that are not getting well properly upon the regime that should cure ulcers? A large percentage of such cases should go to surgery. The diagnosis in those cases is not going to be made until the abdomen is open.

Not very long ago I saw an individual undergo the medical regime by a man who is very competent to treat ulcer and has magnificent success. He treated the case for eight or nine months. Investigation was so sure, everybody was so sure it was a duodenal ulcer. But an exploratory operation revealed no ulcer at all. Eight or ten gallstones in a defective gallbladder were the cause of the whole duodenal syndrome.

That is enlightening. If your ulcer doesn't get well find out what is the matter with the individual. He may not have ulcer. Ulcer that is about to perforate is the ulcer very few people have the advantage of treating.

In my experience of treating a good many duodenal, peptic ulcers, almost without exception the individual has found the calamity suddenly. He drops in the street and he says, "I had a little stomach trouble; not serious at all. I have never taken any medicine for it. I didn't think it was of any considerable importance." But he drops in the street and is brought into the hospital. He finds himself lying on the operating table and he is almost dying but you can hardly tell that there is anything physically the matter with him from the manner in which he lies.

There are certain findings that man will present. You are not certain, the history isn't there, but he is acutely ill. His pulse is just rising. He is cold, his abdomen is stiff. He is terribly sick. There is a limitation of a degree of spasm that you can feel. It goes down over the right colic area drifting down over the omentum, down toward the appendix. Many of these people are opened for perforated appendix when ulcer perforation is the cause.

Another sign to be almost immediately elicited is tympany in the left lower quadrant. Another symptom that was supposed for a long time to signify perforation from an ulcer is dullness over the liver. I have seen that in cases of gangrenous appendix which presented the symptoms of a perforated peptic ulcer.

There are a great number of lesions affecting the stomach that are undiagnosable without exploratory incision. There are lesions that are not so acute, the chronic lesions, the lesions of an infiltrative ulcer, the large round ulcer, ulcer at the pylorus, the ulcer on the posterior wall of the duodenum and the ulcer on the anterior wall of the duodenum, the ulcer involving the whole gastric anterior wall structure. Each one of these has a pathology almost unto itself and is to be met according to the dictates of physiology, pathology and the surgical judgment of the operator.

In the ulcer that has perforated into the posterior wall involving the pancreas, the one you can't possibly differentiate from the perforating type of carcinoma, the question comes up whether you should annihilate that type of lesion with pylorotomy. That is one of the most serious operations in the abdomen. The type of patient driven to the wall with all sorts of medical treatment is the one on whom you can undertake the serious procedure. There will be a high mortality because the patient feels he would rather die than live like that.

You may have to dissect the posterior wall of the stomach from the pancreas without any protection for the peritoneum. It is in this type of operation, when you whittle off a piece of the pancreas and expose the bile row to the digestion that you are going to have some difficulty.

The Billroth has been indicated in these cases and has been applied very commonly in the last two or three years. Pylorotomies have been done on large ulcers at the lower end of the stomach, and I have never seen such remarkable recoveries as on the first one, and on the second one also. Then the third one came and I wasn't sufficiently satisfied that the stoma between the outlet of the stomach and the duodenum was quite big enough so I enlarged it. I thought I was on safe ground. What did the individual do but infiltrate the whole area and I had to dig back into that massive bunch of adhesions and do a protective gastroenterostomy. I have gotten through with the Billroth. It is a lovely procedure in sixty-six and two-thirds of the cases I have done but I am through. The Billroth is an excellent operation if you succeed in entertaining besides the Billroth an entero-enterostomy. I lost a Billroth in a carcinoma resection simply because I didn't entertain this entero-enterostomy.

If you have an artery and vein at the pancreas and duodenum and do not lose an excessive amount of time at that angle, I almost guarantee that any patient can recover from a Billroth provided you leave enough peritoneum to close your duodenum.

The gastric resection is a wonderful operation for callous, for infiltrate, for scooped out, saucer-shaped ulcers and for carcinoma. Particularly is it advisable in carcinoma, and if I had carcinoma in my stomach I wouldn't look up the medical man. I would look up somebody who had the nerve to go ahead if I had any opportunity to survive.

DR. J. J. GAINES, Excelsior Springs: I want to thank the program committee for one of the best programs I have ever sat through in the history of my experience in the Missouri State Medical Association. I want to thank the Doctors Holbrook.

The suggestion the doctor made that if he had a gastric ulcer he would hunt for a doctor is the way most of them do when they are affected like that.

What are we who are not specialists going to take home with us that we can use ourselves? Many of us haven't X-ray outfits. I know I haven't one, but the patient will come in and tell you he has all sorts of distress, that he can't work any more. He may have tried to lift the mortgage and got so nervous he can't sleep. He is nauseated. He used to have it every three months, but now he has it every three or four days. It may not be pain, it may be nausea, unpleasantness, a "weak spell" and he can't work. He is miserable and he wants to know what to do. He won't go to a surgeon; not then.

That is exactly what Dr. Miller pleaded when he said he would go to a physician to see about it. It may be a neurosis, maybe an ulcer or a condition that leads up to an ulcer. He may be a tobacco user who spits out every vestige of saliva as dozens you have met. He is retaining more and more of the most corrosive acid in the whole list of acids. If he isn't in the condition of an ulcer he will soon be if he keeps on.

What will you do? The very first thing give him a soft diet, and write the soft in capital letters,—nothing hard, no skins, no fibers, no seeds, as Dr. Ralph Holbrook said at our county society meeting several years ago. It has got to be soft, meat, bread or potatoes or anything else; eternally soft.

Give them bismuth subnitrate the very best make too, chemically pure. Thirty grains. I believe they prescribe five grains of bismuth subgallate as an astringent and sedative. The amount of pain or distress will govern the amount of beta-naphthol that you would add. Give the bolus, that is a powder with water dropped on it until it is a mush. Give it between meals and at bedtime. It will pack the ulcer full. It will certainly quiet the stomach. I have a half dozen stomachs now bordering on ulcer that are improving nicely.

I believe I have cured ulcer of the stomach by maintaining soft diet and using this powder from four weeks to two months.

DR. I. H. LOCKWOOD, Kansas City: The slide of the last case Dr. Holbrook showed was very interesting because of the involvement of the walls of the stomach the first time the case was X-rayed. The patient may have had symptoms over a period of four or five years, but the roentgenogram shows a very constant, definite, persistent involvement of the walls of the stomach throughout the fluoroscope examination and all the negatives. It is a very large involvement that goes around the stomach, but the very interesting point is that this stomach was entirely emptied in forty-five minutes after she took food.

This is the type of malignancy that may give symptoms early, but the symptoms are not definite enough to force the patient to have a complete examination, or perhaps even go to the doctor. It creeps on insidiously.

Mention has been made of malignancies developing upon the sites of ulcers. I know it is a fact, but I am a little bit like Dr. Holbrook when he says he doesn't know whether he believes it all. I question the findings of any one who states that sixty-eight per cent. of their malignancies have developed on sites of ulcers. Other authorities state that in their opinion malignancy does not develop on the site of an ulcer.

This case had an ulcer after the specimen was removed. There was no glandular involvement. They had trouble in removing all the involved area. After the stomach was opened and the specimen removed there was a little ulcer five millimeters in diameter. Pathologists have definitely made the statement that the ulcer was embolic. It had developed on the site of the infiltration of the submucosa. It was not the cause of the malignancy in this case.

The point I want to bring out is that we do have different types of malignancies as far as the X-ray findings are concerned. With obstruction at the pyloric end of the stomach the symptomatology will begin early, the patient come to you early because he has obstruction. He vomits. This case never did vomit. She has no obstruction. Her stomach is emptied in forty-five minutes.

DR. F. G. NIFONG, Columbia: I wish to relate a circumstance which happened in our town not more than a month ago, illustrating who may receive the credit, or discredit, when encountering a perforating ulcer of the stomach.

One day a young man had a sudden perforation and in a few minutes he was brought to a general practitioner who immediately recognized an acute abdominal condition,—a perforated stomach he thought. The doctor brought the patient to the hospital, at once calling his surgeon, and within the hour operation and closure was accomplished. Within a week the patient wished to get married and was permitted to do so. A few days later he was discharged from the hospital.

In contrast with this case was one just a short time afterwards. A young man driving a truck doubled up like a jackknife with great pain in his abdomen. He was taken by his friends to an osteopathic clinic. The osteopath "osteopathed" his belly all day long. He had a large perforation and a full stomach when the attack occurred and the osteopath massaged all the contents of his stomach into the peritoneal cavity. In the evening they sent for a regular practitioner who recognized the condition at once. The patient was taken to the Boone County Hospital as was the other young man.

This patient was operated upon, although he was in extremis, and the next day he died. This patient did not have the same surgeon as the first patient but they were both young surgeons of experience and equally skilled. We know that these cases do not reflect either credit or discredit upon the surgeons but the laity does not know that. It illustrates to us the peculiar responsibility that rests on the general practitioner or upon the one who first sees the patient. That is the lesson I wish to accentuate. A surgeon cannot do much for such cases after too long a time has elapsed nor after the patient has been so badly maltreated as was the second case mentioned.

ASCARIS LUMBRICOIDES AS A CAUSE FOR APPENDICITIS

REPORT OF CASE

D. D. COX, M.D.

POMONA, MO.

N. S., a little boy three years old, was brought into the Cottage Hospital, West Plains, Mo., August 19, 1928, suffering with pain in the region of the appendix. Examining him I found the muscles over the right side very rigid; he complained of very severe pain in that region.

Preoperative diagnosis: abscessed appendix. I opened the abdomen into the abscess, which was well walled off, and quite a good deal of pus poured from the incision. Put in drain and closed up.

After a few days when the drain was finally removed, I noticed a white streak in the drainage outlet. Picking it up with tissue forceps, I found it to be a round worm about five inches long and alive.

As worms live under conditions in which there is but little oxygen it had survived after the abscess had been completely walled off, when the bowel had been practically closed by the swelling at the base of the appendix. The round worm evidently invaded the appendix and caused the rupture.

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EDITORIALS

CURTAINS FOR HORTON

The medical career of Ray B. Horton, of Purdy and Kansas City, Missouri, steeped in fraud from the beginning, had been forever terminated by the Missouri Supreme Court. On October 1, the Supreme Court en banc in a unanimous decision¹ sustained an order of the State Board of Health revoking Horton's license to practice medicine and surgery in Missouri. This brings to a close a case in which every available means of delay, both legal and political, was utilized by Horton to prevent the board of health from hearing and passing on the charge of fraud in obtaining his license. The charge was filed more than three years ago. In the course of taking the testimony by depositions Horton secured a restraining order against the board of health in the circuit court of Cole County, but at the hearing the order was dissolved. Horton then appealed to the Supreme Court where the judgment of the trial court was affirmed, the Supreme Court holding that the board had the right and authority to investigate the matters complained of and to pass on them. Horton then filed an application for an injunction in the circuit court in Kansas City but this court dismissed the case for want of jurisdiction. The taking of depositions was then resumed by the board and also by the accused. All of this procedure consumed approximately two years.

The board of health then cited Horton to appear before it at a meeting held in St. Louis on May 26, 1927. After hearing all the evidence offered on both sides and the arguments of counsel, the board by unanimous vote revoked Horton's license on May 27, 1927. Horton then filed a petition in the circuit court of St. Louis asking for a writ of certiorari, which was granted. Under this writ all the evidence and all the actions of the board of health were reviewed by this court in the division presided over at that time by Judge Robert W. Hall. Judge Hall quashed the finding of the board and ordered Horton's license restored. The board

of health appealed from this ruling to the Supreme Court of Missouri.

In rendering this decision the Supreme Court held that "the entire record of the proceedings and evidence before the State Board of Health, reviewed in the light of the points raised on certiorari in the circuit court, discloses substantial, competent evidence, supporting the finding and order of said board, and no proper ground to quash said proceedings. It follows that the action of the State Board of Health in revoking relator's license to practice medicine and surgery should be sustained, and the judgment of the circuit court of the City of St. Louis quashing said proceedings and ordering said Board to restore relator's license should be reversed."

It is said that Horton claimed during all these proceedings to have strong political influence at the state capital. Whether this be true or not we do not know but press reports say that "while the case was pending Dr. James Stewart, Secretary of the Board, disclosed that political pressure had been brought to bear to have the case dropped or indefinitely postponed." From the length of time the case was in litigation and the number of court actions instituted by the accused the inference may be drawn that Horton left no stone, either legal or political, unturned.

Apparently Horton's claim of political influence had some basis, particularly when it is remembered that from the very inception of the investigation of his high school record at Purdy to the final conclusion of the case in the Supreme Court the records and press reports show that a member of the school board at Purdy was instrumental in blocking and delaying the investigation of the rather mysterious page found in the loose leaf record, which purported to be the record of R. B. Horton's attendance at high school for four years and his graduation therefrom with sixteen units of credit. (This was later shown to be false.)

When the legal representatives of the board of health went to Purdy to interview those thought to be familiar with Horton's high school and medical school records they were received with indifference and met with skeptical remarks questioning their sincerity and ability to do anything about the matter, for Jack (as Horton was known locally) it was asserted had so much influence with the government, attorney-general, Supreme Court, and other state officials that nothing would be done to jeopardize his professional career. It is said that high officials were appealed to to stop the state

board from proceeding further when he failed in the lower courts. Even after the case reached the Supreme Court it is known that Horton appealed to high state officials urging them to prevent the case from being advanced on the Supreme Court docket after the attorneys for the state had filed a motion for that purpose. We are informed that the legal representatives of the board were in constant fear of receiving "stop orders" from superior authority until after the case had been argued and submitted in the Supreme Court for decision.

Except for the constant and merciless publicity given the case by the press of the state as it progressed through its hazardous legal course, and except for the diligence and loyalty to official duty displayed by public servants, the story of the Horton case would in all probability have had a very different ending.

Never in the history of medicine in Missouri has such a bitter contest been precipitated by the holder of a medical license obtained through fraud to retain his license and the licensing body of the state seeking to revoke it, together with the organized medical profession cooperating to preserve the honor and dignity of the guild. Horton was one of sixty licentiates charged by the board of health with having obtained their licenses through fraud and cited to appear for trial at the meeting of the board on March 16, 1925. Dr. Emmett P. North, St. Louis, was president of the board at that time and was the principal factor in bringing the fraudulent license holders to trial. Several licenses were revoked at the March 16 meeting including the license of Dr. Waldo Briggs, St. Louis. In September, 1925, Dr. North resigned from the board of health but as president of the State Medical Association, to which office he was elected at the Kansas City meeting, he continued with unabated energy on behalf of the Missouri State Medical Association to bring the case to a final issue. In this he had the co-operation of the officers of the State Medical Association and the assistance of Mr. J. Henry Caruthers, former Assistant Attorney-General, not only while connected with the state legal department but continuously since leaving the Attorney-General's office until the final disposition of the case by the Supreme Court.

The wheels of the medical diploma mill moved rapidly but the wheels of Justice while they moved slowly moved inexorably.

1. The full text of the court's decision will be found on page 535, this issue.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY

The Sixth Annual Clinical Conference of the Kansas City Southwest Clinical Society closed one of the most successful meetings in its history at Kansas City on October 11. As the name indicates the principal activities at these conferences are of a clinical nature and this year the program carried highly instructive and illuminating demonstrations at the clinics in the numerous hospitals of Greater Kansas City. In addition to the clinics there were lectures, demonstrations and motion picture exhibits on topics that attracted the continual attention and interest of all those attending the session. The clinics were conducted at the hospitals during the morning sessions the afternoons being devoted to the discussion of a series of symposiums led by men of world-wide fame, and numerous individual papers on subjects of practical interest. Among the symposiums were the following: "Feeding Problems in Children," led by Dr. Joseph Brennemann, Chicago; "Diseases of the Gallbladder," led by Dr. Evarts A. Graham, St. Louis; "Surgery of the Prostate," led by Dr. Henry G. Bugbee, New York; "Peptic Ulcer," led by Dr. Donald C. Balfour, Rochester; "Traumatic Surgery," led by Dr. Wm. O'Neill Sherman, Pittsburgh; "Anemia," led by Dr. Wm. P. Murphy, Boston; "Special Problems in Obstetrics," led by Dr. Irving W. Potter, Buffalo. Among the guests who contributed to the success of the occasion was Dr. Morris Fishbein, Chicago, Editor of The Journal of the American Medical Association, who delivered an address at the public meeting.

These Fall Clinical Conferences of the Kansas City Southwest Clinical Society constitute a real postgraduate course for general practitioners and have become popular with the physicians in the territory surrounding Kansas City. About 500 registered at this session.

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The American Academy of Ophthalmology and Otolaryngology met in St. Louis, October 15 to 19. Several hundred specialists gathered for this, the twenty-third, annual meeting and in other ways as well the session was a most successful one.

As a fitting climax to an interesting and illuminating program, the 1928 Leslie Dana

medal was presented to Dr. F. Park Lewis, Buffalo, vice president of the National Society for the Prevention of Blindness, at a dinner with the Missouri Association for the Blind, October 18, at Hotel Chase. Presentation was made by Dr. Edward Jackson, Denver, dean of his profession in America, first recipient (in 1925) of the annual Leslie Dana award, and guest of honor of the Academy for its five-day session. Other speakers at the dinner included Dr. L. C. Peter, Philadelphia, retiring president of the Academy, who is succeeded for 1929 by Dr. Harris P. Mosher, Boston; Lewis H. Carris, New York, managing director of the National Society for the Prevention of Blindness; Dr. John Green, St. Louis and Dr. Harvey J. Howard, St. Louis, director of the ophthalmic department of Washington University School of Medicine.

The medal awarded to Dr. Lewis is inscribed: "To Dr. Park Lewis—physician, scholar, humanitarian—for lifelong devotion to the prevention of blindness."

Twenty-eight papers made up a very busy scientific program. In addition there were clinical sessions, the year's strides in otolaryngology and ophthalmology were demonstrated or described in 61 conferences, and the members had the privilege of looking over an immense collection of commercial exhibits.

In the annual president's address on October 16, Dr. Peter emphasized the close interrelation between nose, ear and eye infections, pointing out that pathological conditions of the eye sometimes may be traced to the nose. Dr. Jackson spoke on "Changes in Refraction."

Methods of treating laryngeal stenosis were presented by Dr. Robert C. Lynch, New Orleans. Dr. James F. McDonald suggested that many colds might be caused by drying out of the ciliated nasal lining, in the dry air of some modern methods of heating, to an extent impairing the function of the cilia in trapping minute foreign bodies. Bronchoscopic studies re-emphasizing the necessity for extreme care in keeping the lungs free of blood or debris in tonsillectomy were presented by Drs. Louis and Ray K. Daily, Houston.

By invitation, Assistant Klinik Professor Richard Waldapfel, Hajek, Vienna, discussed post-tonsillitis pyemia, and Dr. Vilray P. Blair, St. Louis, gave an illuminating slant on human nature in "Plastic Surgery of the Nose—The Patient's Viewpoint." He made it clear that many persons had an obsession that others stared at some feature, frequent-

ly the nose, and that this set up a troublesome and often far-reaching psychological train unless the blemish—whether real or imaginary—was changed to fit the patient's taste. In fact, he showed lantern slides of persons whose appearance was not improved according to average tastes, but the operation had been successful in that the patient was satisfied and his sense of inferiority alleviated.

FIFTY YEARS IN PRACTICE

It is always inspiring to record the achievement of reaching the half century mark in the active practice of medicine. These occasions are becoming more frequent now than they were a few years back, but it will always be a source of pride to the physician himself and certainly is a gratification to the other members of our organization when a fellow member reaches this distinction. We commented in previous issues on celebrations of this event and now have the pleasure to point to one of our oldest and most lovable fellow members, Dr. W. J. Parker, Steelville, who celebrated his fiftieth year in practice on September 30.

A rather unusual phase of Dr. Parker's achievement is the fact that he has lived all his life in Crawford County and practiced this half century in that county. During that period he has attended 2,186 births. Dr. Parker has not given his fellow members the pleasure and gratification of seeing him at our Annual Meeting very often, but he has been a member since 1912 and is secretary of his county medical society. He is loved, honored and respected by practically every inhabitant of Crawford County and is still actively engaged in the service of healing the sick.

One of his sons, Dr. J. H. Parker, Nevada, now superintendent of State Hospital No. 3, has the unusual distinction of having served as an officer in all of the four state hospitals during the past ten years. He was assistant physician at State Hospital No. 1, Fulton, and has been superintendent at State Hospital No. 2, St. Joseph, and No. 4 at Farmington, being now superintendent of No. 3 at Nevada.

NEWS NOTES

Dr. Jabez N. Jackson, Kansas City, will give the dedicatory address at the opening of the new hospital of the University of Oklahoma at Oklahoma City, November 2, 1928.

Dr. W. T. (Pat) Coughlin, St. Louis, was the guest of the Tri-County Medical Association at Monmouth, Illinois, on October 4, and addressed the meeting on "Intracranial Injuries."

Space for the maternity division of the St. Louis City Hospital has been doubled and \$5000 expended in new equipment to meet increasing calls on this type of service at the public institution. In the first eight months of this year fifty-five more children were born there than in the same period in 1927.

Dr. Frank B. Fuson, Jefferson City, has resigned as health supervisor for the state eleemosynary institutions to become superintendent of the Evergreen Sanitarium at Leavenworth, Kansas. His resignation became effective October 1. Dr. Fuson has been in the service of the state since his appointment in April, 1927.

Dr. J. C. Lyter, St. Louis, was the guest of honor at a dinner given by Dr. Charles E. Trovillion, Superintendent of Anna State Hospital, Anna, Illinois, on September 13, to about thirty physicians of Southern Illinois. Following the dinner Dr. Lyter held a clinic on cardiovascular diseases. On September 25 Dr. Lyter delivered an address before the Macoupin County Medical Society at Carlinville, Illinois, on the "Medical Aspects of Thyrotoxicosis."

The Southern Medical Association will hold its twenty-second annual meeting at Asheville, North Carolina, November 12-15, 1928. In the sixteen sections and conjoint meetings, the general sessions, clinics, and scientific exhibits, every phase of medicine and surgery will be covered. The Battery Park Hotel and the George Vanderbilt Hotel are joint hotel headquarters. Splendid entertainment and recreation facilities will be provided for physicians and their wives. Members can secure identification certificates from the Association entitling them to reduced railroad fares. These certificates should be presented to the railroad agent, signed in his presence, to obtain a round trip ticket. The rate is one and one-half fare for the round trip, going and returning over the same route. Tickets can be purchased from November 8 to 14, with final limit November 21. Persons must reach Asheville on or before the morning of November 14 and return by November 21 midnight.

Dr. E. Lee Myers, St. Louis, who has spent the summer visiting medical clinics in Europe and attending the Congress of Oto-Rhino-Laryngology at Copenhagen, Denmark, has returned and resumed his practice.

Dr. Hardy A. Kemp, Dallas, Texas, formerly assistant physician at the Missouri State Sanatorium for the Treatment of Incipient Tuberculosis, Mt. Vernon, Missouri, has accepted the position of Associate Professor of Bacteriology at Baylor University College of Medicine, Dallas, Texas, and resigned from the State Sanatorium. He took charge of his new duties at Baylor University on September 15, 1928.

The Medical Center, New York, was dedicated to the service of humanity and the progress of science on October 12 before many thousands of invited guests. The ceremony marked the beginning of united efforts as a teaching and research combination. This medical university center nearing completion is the result of a project started eighteen years ago by such well known figures as Dr. Samuel Lambert, Dr. Joseph A. Blake and Dr. Theodore Janeway. Following the dedicatory services inspection of the College of Physicians and Surgeons, the Vanderbilt Clinic and the School of Dental and Oral Surgery was made. Visitors were not admitted to the Babies Hospital, the Neurological Institute, or the New York State Psychiatric Institute and Hospital as they are still under construction. These buildings will be ready for occupancy on about January 1, 1929.

A \$1,000 radio set, provided two months previously by Kansas City for the patients at Leeds Tubercular Hospital, was stolen from the office there on September 24. Virtually every one of the 115 patients was an enthusiastic radio "fan" and their appeals had brought about the installation of the receiving set. The set and loud speaker were in the office, where they were surrounded constantly by groups listening to concerts, candidate's speeches or the accounts of sport events. Bed patients were perhaps more dependent on it and each one could listen in by a head set. It had greatly improved the morale of the hospital and the theft was a real blow. Superintendent George C. Lee asked police to make a special effort to recover it. For 15 minutes, between 8:15 and 8:30 a. m., the office was unoccupied, and he believed the thief must have driven up to the entrance in an automobile and seized that brief period to accomplish the theft.

Dr. G. D. Royston, St. Louis, was elected second vice president of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons at the annual meeting of that Association in Toronto, September 17-19, 1928.

The State Board of Health's cancellation of Dr. T. S. Manning's license to practice medicine in Missouri was upheld October 8, 1928, by Circuit Judge Mix, of St. Louis, denying Dr. Manning's appeal to that court. Dr. Manning, whose home was in St. Louis, was convicted in the federal court there June 21 on 29 counts of an indictment charging violation of the Harrison Act. The State Board of Health took action November 30, 1927, upon testimony of addicts that Dr. Manning had prescribed narcotics for them.

The corner stone for a new \$350,000 building for the Central Institute for the Deaf, St. Louis, was laid last month at Kingshighway and Clayton Avenue, overlooking Forest Park. The building, which will provide for 300 students, is to be completed in July, 1929. It will be four-story brick and reinforced concrete and probably will be the best equipped school in the world for the study of speech and hearing defects. The improvement was made possible by special gifts and contributions. Dr. Max A. Goldstein is medical director and it is through his efforts that the institution has grown from a small beginning fourteen years ago to its present proportions.

The following articles have been accepted for New and Nonofficial Remedies:

Abbott Laboratories

Anpoules Metaphen Solution 1:1,000, 10 cc.
Eli Lilly & Co.

Erysipelas Streptococcus Antitoxin (Lederle) Refined and Concentrated

Tetanus Antitoxin, 20,000 units

H. K. Mulford Co.

Diphtheria Toxin for the Schick Test, two 10 cc. vial packages

Parke, Davis & Co.

Tetanus Antitoxin Globulin 20,000 units

E. R. Squibb & Sons

Diphtheria Toxin - Antitoxin Mixture (Sheep)—Squibb

Diphtheria Toxoid—Squibb

Parathyroid Hormone—Squibb

United States Standard Products Co.

Diphtheria Toxin-Antitoxin Mixture (Non-Sensitizing)

The second annual conference of committees of the World Conference on Narcotic Education and the International Narcotic Education Association will be held in New York City, at the Waldorf-Astoria Hotel, November 21 to 24, 1928. The Conference will be devoted to four special phases as follows:

1. Consideration of the Uniform State Narcotic Defense Law, proposed amendments to the Harrison and Immigration Acts, proposed Congressional resolution asking Congress to call to the attention of governments the over-manufacture of narcotics and the failure of certain countries to observe the agreement of the Hague Convention of 1912.

2. Incorporation of material on Narcotic Education into school textbooks.

3. Discussion of plans for further development of liaison with international countries and governments.

4. Scientific papers.

Hon. Richmond P. Hobson, 578 Madison Avenue, New York City, is chairman of the Governing Board, Conference of Committees.

Sixty-one members of the St. Louis Doctors' Golf Club assembled, with a display of golf finery that shone no less than the display of golfing proficiency, September 28, on the west course of North Hills Country Club for their annual meeting and tournament. It would be difficult, and possibly dangerous, to pick sartorial winners, but it may be said that Dr. V. V. Wood and Dr. Leith H. Slocumb tied with 79 for the low score, and Dr. Wood won the toss-up for the prize, a loving cup. Dr. Fred Bailey took second prize with 81. Dr. Otto Wilhelmi turned in low score on the first nine, and Dr. R. C. McElvain on the second nine. Dr. Alphonse McMahon used the fewest putts. Dr. S. S. Burns made the longest drive. Dr. A. P. Erich Schulz had the low score on No. 14, and Dr. Matthew W. Weis on No. 15. Dr. James L. Mudd won first prize as honest golfer, and Dr. J. J. Burdick was second. Attendance prize for those who did not play but attended dinner went to Dr. Cleveland H. Shutt. First blind bogey prize went to Dr. M. J. Pulliam; second to Dr. Ben May. "Wim, wigor and vitality" prize was awarded to Dr. Amand Ravold.

Dr. Ravold was unanimously elected president for the coming year, with Dr. R. B. H. Gradwohl as secretary-treasurer. A rising vote of thanks was extended to Dr. McElvain, president of the North Hills Country Club, and Dr. Slocumb, North Hills member and retiring president of the Doctors' Club, for the unusual courtesy and attention of the North Hills personnel.

Dr. A. W. Harrison, Kansas City, was fined \$5 in the municipal court there September 15, for illegal issuance of a health certificate for a food handler, a practice which Health Director Cavaness has been investigating. Miss Marie Robertson, manager of the Traffickway Cafe, testified that Dr. Harrison offered to give her a health certificate for 50 cents on condition that she answered his questions about her health in the affirmative. The defense protested that this method of issuing certificates was widespread. Dr. Cavaness replied that he was aware of the fact; it was the reason he was taking action in court. Judge Garder ordered Dr. Harrison to cease issuing certificates.

A \$200,000 gift to the Jewish Hospital, St. Louis, for a new clinic and laboratory building was announced at the directors' meeting October 11 by Mr. Aaron Waldheim, who is chairman of the board and, with Mrs. Waldheim, is said previously to have given \$135,000 to the hospital. The addition, to be known as the Waldheim Health Clinic, is to stand immediately adjacent to the hospital on a site now occupied by a former residence which is in temporary use as a clinic building. It is to be a five-story structure of a style to harmonize with the hospital and the Shoenberg Memorial Nurses' Home. A dispensary and clinic will occupy the lower three floors, and the two upper floors will be occupied by the laboratories.

The Public Health Service has recently authorized the probational release of eight lepers from the National Leprosarium at Carville, La., as no longer a menace to the public health. These eight lepers have been under treatment at the National Leper Home for varying lengths of time, ranging from two years to seven years. It is of interest to know that leprosy, the dread disease of the centuries, is beginning to be conquered by improved modern scientific medical treatment. The National Leprosarium at Carville, La., has been operated by the U. S. Public Health Service for a little more than seven years. During that time 37 lepers have been released or paroled as being no longer dangerous to the public health. Only one of these lepers has suffered a relapse and has had to resume treatment. More than 300 lepers are now under treatment at this institution.

"Dr. W. Vaughn" was arrested in St. Louis September 19 for fraudulently obtaining \$22.50 from Miss Christine Rexel, operator of a beauty parlor in the City Club building, for a "health certificate" to do business. He told

police he was a graduate of a Massachusetts medical school which ceased operations in the diploma mill investigation, but gave his name as William Weir and his occupation as salesman. He had \$14 and a magnifying glass in his pocket. Miss Rexel told police the "Doctor" told her he represented the Better Business Bureau, which has offices in the same building, and "the Medical Society," and used the magnifying glass to examine her teeth, tonsils, eyes and finger nails, collected \$22.50 and said he would send the certificate. The certificate did not arrive. Weir admitted giving her "advice," but denied charging for it.

OBITUARY



GREENFIELD SLUDER, M.D.

ST. LOUIS

1865—1928

Dr. Greenfield Sluder, St. Louis, a graduate of Washington University School of Medicine, St. Louis, 1888, died October 9, 1928, at Barnes Hospital, St. Louis, of pneumonia, following amputation of the right leg due to infection, aged 63.

Dr. Sluder was endowed with a mind which brought to him an eventful career. He often insisted that he was hardly thought worth educating in his youth because he did not take readily to the conventional studies as he grew up. He esteemed it fortunate that he was sent to the Manual

Training School of Washington University. It was during the developmental period of the school when Professor Woodward was personally watching the psychological effects of combined training—"The cultured mind, the skillful hand"—this was the motto of the school.

When a cultured mind directs a skillful hand to the relief of pain it may perhaps be said that the highest art has been reached.

Instead of the formal single year in the St. Louis City Hospital, the training school which has produced so many of our best general and special surgeons, Dr. Sluder had four. He could easily have practiced as a general surgeon when he left the hospital, but he elected instead to spend six years in general medicine with Dr. W. E. Fischel, then in the busiest period of his distinguished career. So, when he went to Europe for special training in rhinology and laryngology he was already a fully developed physician and surgeon with a record of successful accomplishment. He was already a successful teacher, a function he prized to the end of his days because it multiplied his usefulness to his fellows and to his community.

His foreign training was exacting and laborious. Original work on the physiology and minute anatomy of the larynx brought to him the high regard of his instructors. He said he did not see a patient for ten months. His early work was all in the laboratory.

When he returned to St. Louis to enter his specialty he had in his mind not the mere acquisition of patients and the development of a lucrative practice. These came to him as a matter of course. He knew he had capacity to solve some of the most intricate problems in rhinology and laryngology and he diligently pursued such anatomical and physiological studies as he knew would best equip him for the work. He always had a problem in process of solution, for he never rested; even when on "vacation" at Harbor Point. He carried his books and manuscripts often in the quiet of his den, getting the opportunity to do thinking which his busy life at home forbade.

So the substantial advance he brought to us in knowledge of the tonsils, the neurology of the paranasal sinuses, the hyperplastic bone changes, the swallowing reflex and the extended influence of the nasal ganglion were the product of a cultured mind disciplined to laborious and continuous effort.

Sluder's neuralgia is now well known as

is also the change at times brought about in the optic discs by sinus disease.

He was acute in physics and the vacuum headache he worked out with Dr. Ewing.

His manual training led him to devise special tools (instruments) to carry out specific procedures. The Sluder tonsillotome is based on a keen anatomical observation coupled with a trained mechanical sense. He early recognized the principles of the light reflex in searching the nose and throat for obscure lesions so he practically reproduced sunlight at each of his work tables by means of a specially devised lamp.

Only those who worked with him (and some patients) realized the enduring patience with which he pursued his search for lesions. It was not unusual for him to keep a patient all day making and recording observations twenty or more times. He was equally relentless with himself in his pursuit of truth and did his work so painstakingly that the courage of his convictions rested on a very solid foundation and never gave way when bombarded by criticism.

Latterly his restless zeal impelled him to a study of the sympathetic nervous system about which little is known. His most vivid expressions of impatience over the illness which began in Boston two or more years ago were brought out because he could not pursue these studies he had mapped out and which he felt competently trained to follow. He was unperturbed when the Fellows of the Association could not at the time accept his opinions for he never presented a hastily prepared paper just for the sake of appearing on the program and he scorned those who did. When he read or published a paper it was based on an adequate number of carefully checked observations and was ready to be added to the textbooks of his subject.

Such was Dr. Sluder in the field of science, an honest and diligent observer who kept his mental feet solidly on the ground of general medicine and whose broad general training, special training and common sense made him a leader amongst men of foremost talent.

Such men are rare. We shall not soon see his like again and though he has left us a glorious heritage we regret he was not spared to enjoy the tributes he so fairly earned, growing with the years.

Dr. Sluder was indefatigable in the pursuit of knowledge concerning his work. He was a frequent contributor to periodical literature, some fifty titles being listed in

English and German journals. In addition to this he was the author of three monographs: "Concerning Some Headaches and Eye Disorders of Nasal Origin," 1918; "Tonsillectomy by Means of the Mandible and a Guillotine, With a Review of Cellat-eral Issues," 1923; "Nasal Neurology, Headaches and Eye Disorders," 1927.

WALTER JACKSON LOWREY, M.D.

Dr. Walter Jackson Lowrey, Kansas City, a graduate of University Medical College of Kansas City, Missouri, 1892, died September 4, 1928, aged 67.

Dr. Lowrey was born July 26, 1861, near Warrensburg, Johnson County, Missouri, and received his early education in the schools of his county. After graduating from medical school in 1892 he practiced in Pittsville, Missouri, and Odessa, Missouri, for several years, moving to Kansas City in 1904 where he enjoyed a large practice. He joined the Jackson County Medical Society in 1907 and was elected an Honor Member in 1927. He was a Fellow of the American Medical Association. During the World War he served on the Medical Examining Board. He was a member of the Linwood Boulevard Christian Church and an active member of the Ivanhoe Masonic Lodge.

Dr. Lowrey is survived by his widow and a son, Dr. Ford J. Lowrey, of Kansas City. Other survivors are a sister, Mrs. J. V. Johnson, Canon City, Colorado, and two brothers, Mr. E. R. Lowrey, Pittsville, Missouri, and Mr. W. W. Lowrey, Lockney, Texas.

The Necrology Committee,
Jackson County Medical Society.

MISCELLANY

IN THE SUPREME COURT OF MISSOURI IN BANC

APRIL TERM, 1928

State of Missouri, ex rel. Ray Beaman Horton,
(Relator) Respondent,

v.
Dr. W. A. Clark, President, Dr. James Stewart, Secretary, Dr. H. S. Gove, Dr. Willard Bartlett, Dr. H. A. Breyfogle, Dr. E. T. McGaugh and Dr. H. L. Kerr, composing the State Board of Health of the State of Missouri; (Respondents) Appellants.

No. 28730

This is an appeal from a judgment of the Circuit Court of the City of St. Louis quashing the proceedings of the State Board of Health brought there for review by writ of certiorari in the matter of a complaint filed against relator, Ray Beaman Horton, and

ordering said Board to restore his license to practice medicine and surgery in the State of Missouri.

Respondent insists that no appeal lies to the Supreme Court from said judgment of the Circuit Court of the City of St. Louis. While we have held that the State Board of Health is not a court or judicial body (*State ex rel. v. Goodier* 195 Mo. 551) yet when relator availed himself of the right of review given by Sec. 7336, R. S. 1919, and filed his petition in the Circuit Court of the City of St. Louis for a writ of certiorari against the members of the State Board of Health that proceeding was a "case" within the meaning of Sec. 12, Art. VI of the Constitution, and as respondents are state officers within the meaning of said section an appeal from the decision of the trial court in the certiorari proceeding properly goes to the Supreme Court. Section 5, Amendment of 1884 to Article VI of the Constitution; *State ex rel. v. Springer*, 134 Mo. 212 l. c. 221; *State ex rel. v. Nortoni*, 201 Mo. l. c. 26, quoting from *State ex rel. Blakemore v. Rombauer*, 101 Mo. 499; *Farber v. Shot*, 304 Mo. 523 l. c. 528, 533.

Preliminary to further consideration of this appeal we shall here briefly summarize the proceedings prior thereto. The original complaint was filed with the State Board of Health June 9, 1925, Horton was duly notified, and a hearing was set for September 17, 1925. Thereupon the said Horton filed a petition for injunction against said State Board of Health in the Circuit Court of Cole County, Missouri. A temporary restraining order was issued which was thereafter dissolved and judgment was finally rendered in said Court in favor of the State Board of Health. Petitioner appealed therefrom to the Supreme Court of this state where the judgment was affirmed. *Horton v. Clark et al.*, 293 S. W. 362. Thereafter on March 22, 1927, the following amended complaint was filed against the said Horton in the office of the Secretary of the State Board of Health of Missouri:

"State of Missouri,

ss.

County of Cole.

BEFORE THE STATE BOARD OF HEALTH OF THE STATE OF MISSOURI

Comes now the undersigned, Ross Hopkins, and for his amended complaint alleges and charges that one Ray Beaman Horton has been for sometime and is now engaged in the practice of medicine and surgery in the State of Missouri, by virtue of a license or certificate granted to him by the Missouri State Board of Health under date of October 18, 1922; that said license or certificate so granted was secured by false and fraudulent statements and representations made by said Ray Beaman Horton to the Missouri State Board of Health in that said Ray Beaman Horton falsely stated under oath in his application to the State Board of Health for a license to practice medicine and surgery in this State, dated August 29, 1922, among other things, as follows, to-wit:

"9. Preliminary Education. My preliminary qualifications are as follows:

"'Graduation from the Purdy High School, Purdy, Missouri, May 24, 1916.'

"That said Ray Beaman Horton, in said application for a license to practice medicine, falsely and fraudulently submitted to said Board of Health a certificate of preliminary education; that such certificate of preliminary education is in words and figures as follows:

"CERTIFICATE OF PRELIMINARY
EDUCATION.

"This certificate to be made out, signed and sworn to by the executive officer of the Institution which conferred upon the applicant his preliminary education. If examination was passed before a county school commissioner, that officer shall name the branches in which applicant was examined, the grades made in each branch, and the date on which the examination was conducted, which must have been prior to the beginning of the study of medicine.

"This is to certify that Ray Beaman Horton graduated from the Purdy High School at Purdy, Mo., May 24, 1916, and received the following grades:

1912-13

Algebra one 85%—English one 93%—Latin 92%—Ancient History 90%

1913-14

Geometry one 91%—English two 94%—Latin two 89%—Med. and Modern History 91%

1914-15

Agriculture 86%—Algebra two 89%—English three 92%—English History 84%.

1915-16

Physics 88%—Geometry two 92%—English four 89%—American History 90%

(Signed) Jesse W. McCraw, Pres. Board of Ed. Executive Officer of School or College, or County School Commissioner.

State of Missouri,

ss

County of Barry.

Subscribed and sworn to before me this 26th day of August, 1922.

(Seal)

A. J. Clevenger,
Notary Public.

My commission expires Jan. 6, 1925.

"That the said Ray Beaman Horton further states in his said application for a license to practice medicine that he attended the St. Louis College of Physicians and Surgeons from October 5, 1918, to May 15, 1919; from October 1, 1919, to June 2, 1920; from October 10, 1920, to May 2, 1921; and the Kansas City College of Medicine and Surgery from September, 1921, to May, 1922.

"Whereas in truth and in fact the said Ray Beaman Horton did not graduate from the Purdy High School, Purdy, Missouri; and said certificate of preliminary education, so exhibited to the State Board of Health was falsely concocted to show that said Ray Beaman Horton was a graduate from said Purdy High School, when in truth he was not such graduate; and whereas in truth and in fact the said Ray Beaman Horton did not continuously and regularly attend the St. Louis College of Physicians and Surgeons from October 5, 1918, to May 15, 1919; nor from October 1, 1919, to June 2, 1920, as aforesaid; all of which the said Ray Beaman Horton then and there well knew.

Ross Hopkins, M.D.

March 22, 1927.

Filed March 22, '27

State Board of Health

James Stewart, Sec'y."

On April 23, 1927, the said Horton was duly notified of the filing of this amended complaint, served

with a copy thereof and notified to appear before the said Board for a hearing thereon May 26, 1927. Pursuant to said notice the said Horton appeared in person and by counsel before said Board of Health, a hearing upon said amended complaint was had, and on May 27, 1927, the said State Board of Health revoked his license to practice medicine and surgery in the State of Missouri. Thereafter, on June 11, 1927, relator filed his petition in the Circuit Court of the City of St. Louis as aforesaid. The writ was issued and respondents filed return tendering a true and correct copy of the record of the proceedings and all the evidence had before the State Board of Health in said matter. Relator thereupon filed motion to quash the proceedings of the State Board of Health in said matter, which motion was by the court sustained and said Board was ordered to restore relator's license to practice medicine in the State of Missouri. From the judgment rendered respondents duly appealed.

Authority for the issuance of a writ of certiorari against the members of the State Board of Health thus appears in Sec. 7336, R. S. 1919:

"Any person whose license has been or shall be revoked by the board shall have the right to have the proceedings of said board revoking his license and all the evidence therein reviewed, on a writ of certiorari, by the circuit court of the county in which said board held its session when said license was revoked. Said writ shall issue upon the petition of the person whose license shall have been revoked to said Court or to the clerk thereof in vacation at any time within ninety days after such revocation, and shall command the said board and the secretary thereof to certify to said court the record and proceedings of said board, and a complete transcript thereof, and of all the evidence therein pertaining to the revocation of said license. The petitioner for the writ of certiorari shall set forth the rights of the petitioner and the injuries complained of by him and shall be verified by him."

A common law writ of certiorari only brings up the record and can only reach defects or errors in the proceedings of the tribunal to which it is issued which appear upon the face of the record and go to the jurisdiction of that tribunal. The evidence is no part of the record and it is not the office of such writ to bring up the evidence for review. *Hann. & St. Joe R. R. Co. v. State Board of Equalization*, 64 Mo. 294 l. c. 308. However, the writ of certiorari contemplated by above section 7336 is somewhat broader than the common law writ for it specifically provides that the writ "shall command the said board and the secretary thereof to certify to said court the record and proceedings of said board, and a complete transcript thereof, and of all the evidence therein pertaining to the revocation of said license." The broad scope of this statutory proceeding is further indicated by the provision that "any person whose license has been or shall be revoked by the board shall have the right to have the proceedings of said board revoking his license and all the evidence therein reviewed, on a writ of certiorari, by the circuit court of the county in which said board held its session when said license was revoked." On appeal from a judgment of the circuit court upon such a review we have held this statute penal and ruled that the acts for the commission of which the valuable privilege or right to practice medicine and surgery may be taken away must come within both the letter and the spirit of

the law. *State ex rel. v. Robinson*, 253 Mo. 271 l. c. 285. Nevertheless, it is a wholesome and well recognized rule of law that powers conferred upon board of health to enable them effectually to perform their important functions in safeguarding the public health should receive a liberal construction. 29 C. J. sec. 30, p. 248; also, sec. 6, p. 243. While boards of this character cannot act arbitrarily, or without substantial evidence (*State ex rel. v. Adcock*, 206 Mo. 550 l. c. 558), yet when any act, requiring the exercise of judgment and the employment of discretion is within the scope of the exercise of a reasonable discretion, it will not be interfered with. *State ex rel. Granville v. Gregory*, 83 Mo. 123 l. c. 136. Section 7336, *supra*, empowers the State Board of Health, for causes therein specified, to revoke a license to practice medicine after giving the accused an opportunity to be heard in his defense before the board as therein provided. Relative to such a hearing and how the proceedings therein should be regarded on review in the circuit court, we thus spoke in *State ex rel. v. Goodier*, 195 Mo. 551 l. c. 559:

"The State Board of Health is not a court, is not a judicial tribunal; it can issue no writ, it can try no case, render no judgment; it is merely a governmental agency, exercising ministerial functions; it may investigate and satisfy itself from such sources of information as may be attainable as to the truth or falsity of charges of misconduct against one holding one of its certificates, but its investigation does not take on the form or character of a judicial trial. The law does not contemplate that the technical rules of evidence applicable to a judicial trial will be strictly followed or that compulsory attendance of witnesses will be made. It contemplates that a plain, honest, common sense investigation shall be made, with good faith and as thorough as may be within the light of such evidence on either side as is obtainable without process and with the means at hand; much like the investigation that fair-minded intelligent men would make in their own business concerning the alleged misconduct of one of their employees, with this difference only, that the board cannot revoke the license except for cause and after the accused has had an opportunity to be heard."

From what we have already said it follows that in the consideration of this appeal we are not limited to the question of "the jurisdiction of the tribunal (in this instance the State Board of Health) whose proceedings are sought to be reviewed by certiorari," as now urged by respondent. However, we shall follow the usual appellate practice considering only the errors which are here presented and urged and specifically pointed out, and confining our review to matters or objections urged below in the certiorari proceeding. 11 C. J., sec. 407, p. 221.

In their motion for a new trial in the circuit court and their assignment of errors presented here appellants insist that "the court erred, in view of the whole record, in quashing the proceedings of the board and ordering the board to restore relator's license to practice medicine in Missouri." And the sufficiency of relator's petition in the circuit court was in nowise challenged and the case there went off on his motion to quash we look to that motion for relator's objections to the proceedings before the Board and for the matters raised and considered in the circuit court. The grounds of this motion were therein stated as follows:

"First, that the said Respondents, and especially two members of said Board, namely Dr. James Stewart and Dr. H. L. Kerr, were prejudiced and biased against Relator and could not and did not give to Relator a fair and impartial trial at said hearing before said Board, as shown by the record before said Board from pages 19 to 30 of said record.

"Second, because said State Board of Health erred in refusing to allow complainant to introduce in evidence the records of said State Board of Health, showing that the said State Board of Health during the years 1921, 1922 and 1923, admitted applicants from the Kansas City College of Medicine and Surgery to take the examination to practice medicine and to license such applicants to practice medicine, as shown by the record before said Board at pages 305 to 313.

"Third, because the said Respondents erred in allowing complainant in said hearing before them, to introduce evidence over the objection of Relator, that Relator had taken money from L. C. Schneider, E. C. Teubel, B. T. Coglazier, which evidence was immaterial and irrelevant and did not tend to prove or disprove any issue in the hearing before said Respondents, and was not charged in the complaint filed before said Respondents, and which evidence was highly prejudicial against Relator, and for such reasons he was not afforded a fair and impartial trial, all of which is shown in the record beginning at page 586 to 642, inclusive.

"Fourth, because said Respondents erred in allowing said complainant, in the hearing before them, to amend said complaint by adding new and additional charges over the objection of Relator, and which did not give to Relator twenty days' notice as required by the Statutes, on all charges preferred against him, and which was surprise to Relator and did not afford him an opportunity to meet the issues of said amended complaint as shown by the record on pages 519 and 520.

"Fifth, for the reason that all of the testimony, with the exception of the last two hundred pages, was introduced in support of the original complaint as found on page 35 of the record, when said complaint was abandoned by the amendment of said complaint, as appears on page 520, and all of said testimony was introduced for the purpose of establishing a complaint which was subsequently abandoned.

"Sixth, because Relator proved in said hearing before said State Board of Health, that he was a graduate of the Kansas City College of Medicine and Surgery, and that in the year 1922 when he was licensed by said State Board of Health to practice medicine and surgery in the State of Missouri, the said Kansas City College of Medicine and Surgery was a college complying in all respects with the law governing and regulating such schools at such time, and that the law did not require any further proof of Relator, except that he was a graduate of such school and any statement that Relator made in his application that he attended the St. Louis College of Physicians and Surgeons if false, which is denied by Relator, was not fraudulent because it was immaterial and irrelevant and could not be relied upon by said Board, and was not charged or shown to be relied upon by said Board, all of which is shown in the record, pages 475 to 570, inclusive.

"Seventh, because Relator proved conclusively that he was a graduate of the Purdy High School at Purdy, Missouri, and that he had at said institution sixteen units of credit, which is the equivalent of graduation of an accredited high school in the State of Missouri, as shown by the testimony of Merle Neville Ross, beginning at page 275 of said record, and the affidavit of Albert Mott at page 231 of said record, all of which is shown conclusively and without contradiction that Relator was a graduate of said school and had sixteen units of credit in said school, which was an equivalent of high school education and which was all that was required by law of Relator.

"Eighth, because Respondents erred in overruling the motion of Relator to make the charges in said complaint, pending before them, more definite and certain, as shown on page 41 of the record.

"Ninth, because the verdict and judgment of the court was against the weight of the creditable evidence.

"Tenth, because the order made by said Board is contrary to the laws and facts, in said hearing before them.

"Eleventh, because the action of the Board in revoking Relator's license to practice medicine in the State of Missouri was arbitrary, erroneous, unreasonable and unjust and without authority and jurisdiction.

"Twelfth, because the State Board of Health erred in the hearing before them in admitting incompetent, immaterial and irrelevant testimony over the objection of Relator on behalf of complainant in said hearing before them, as shown all through the record of said hearing.

"Thirteenth, because the court erred in excluding competent, relevant and material evidence on behalf of Relator in said hearing before them, as shown all through the record of said hearing.

"Fourteenth, because said Respondents erred in admitting testimony of Mr. E. H. Riske on page 461 and 462 of the Record and erred in admittance of complainant's Exhibits Nos. 20, 21 and 22 as shown on page 461 of the Record before the State Board of Health.

"Fifteenth, the statement in the application of Dr. Horton to the State Board of Health for license to practice medicine in Missouri, that he attended the St. Louis College of Physicians and Surgeons during the years 1918-1919, 1919-1920, 1920-1921, if false, is not a fraudulent statement and is not charged in the application to have been relied upon by the Board nor shown by any evidence in the Record that the Board relied upon such statements."

The record before us discloses that six of the seven members constituting the State Board of Health were present at the hearing and by their unanimous vote relator was found guilty as charged in the complaint and his license revoked. Under Sec. 7336, R. S. 1919, a majority, consisting of four members of the Board so voting and exclusive of the two members here objected to, would have been sufficient. However, we have carefully examined the part of the record referred to in relator's ground first stated and find no basis for relator's complaint.

Relator's second ground is also without merit because the proof offered was irrelevant and immaterial, the complaint charging false and fraudulent statements by relator in connection with his at-

tendance at the St. Louis College of Physicians and Surgeons and not in connection with his attendance at or graduation from the Kansas City College of Medicine and Surgery.

At the hearing before the State Board of Health, for the alleged purpose of affecting his credibility as a witness, relator was asked whether or not on specific occasions he had accepted money from certain individuals on the representation that he could and would influence the State Board of Health to grant them licenses to practice medicine. When relator denied that he had ever done anything of the kind, still for the alleged purpose of affecting his credibility as a witness, and under the head of "complainants' evidence in rebuttal," he was confronted with the individuals named who testified that he did receive money from them at definite times and places on such representations. Relator's third ground is directed to this action of the Board. The introduction of this testimony was not a proper method of impeachment, nor was it properly matter in rebuttal. A witness may, for the purpose of impeachment, be asked and compelled to answer whether he has committed particular wrongful or immoral acts (3 Encyc. of Evidence 760; *Carp v. Queens Ins. Co.*, 104 Mo. App. 502; *State v. Hack*, 118 Mo. 92), subject to his personal privilege and right to refuse to answer incriminating questions, even though such facts or acts may be irrelevant and collateral to the principal controversy or issues involved in the case (40 Cyc. 2616); but if a witness is asked as to some shameful act, for the purpose of discrediting him, those asking the question are concluded by the answer, except as to a conviction of crime, and the court will not go into the collateral issue which would otherwise be presented. *Muller v. St. Louis Hospital Assn.* 5 Mo. App. 390, l. c. 402, opinion approved in *Muller v. The St. Louis Hospital Association*, 73 Mo. 242; 40 Cyc. 2627. However, if aside from this evidence which must be excluded there is substantial admissible evidence supporting the action of the State Board of Health its action should not be disturbed.

In the course of the hearing before the Board complainant was permitted to amend his complaint by inserting the following before the words "as aforesaid" in the next to the last line: "from October 10, 1920, to May 2, 1921." In relator's fourth ground it is urged that by reason of this amendment he was not given twenty days' notice of all charges preferred against him as required by statute and that he was thereby surprised and not afforded an opportunity to meet the issues presented in said amended complaint. Relator was evidently not surprised by this amendment for his counsel in his opening statement at the hearing said (*italics ours*): "The evidence will further show that he attended the St. Louis College of Physicians and Surgeons during the years 1918, 1919 and 1920, and 1921. That will be shown by the records I think, and by teachers and students out there from that institution." Furthermore, the amendment was not made until after complainant had introduced evidence, unobjected to by relator, that he did not attend said school from October 10, 1920 to May 2, 1921, and after relator had introduced evidence to the contrary. In such circumstances the amendment was in effect made conforming to the pleading or complaint to the facts proved and did not change substantially the claim or defense. Such is permissible under Sec. 1274 R. S. 1919.

We find nothing in the record indicating that the

other charges contained in the complaint when it was amended were ever abandoned. Hence, relator's fifth ground is without merit.

In relator's sixth ground it is urged that his representations as to his attendance at the St. Louis College of Physicians and Surgeons, even if false, were not fraudulent because not material. In *Horton v. Clark*, 293 S. W. 362 1. c. 364-5 we thus referred to such representations and pointedly held that they were material:

"The statute requires as one of the preliminary qualifications for the practice of medicine that the applicant shall have received 'a diploma from some medical college of four years' requirements'; and the statements just referred to were evidently made for the purpose of establishing that the diploma exhibited by appellant was that of a school of four years' requirements. The materiality of these statements is, therefore, apparent. It is argued, however, that attendance at a medical college for any specific length of time is not required; the statute is plainly to the contrary. The movements that have been on foot for several years to raise the standards of attainment of practitioners of both law and medicine and the progress made therein are matters of common knowledge. In the light of that knowledge, the meaning of the qualifying phrase, 'of four years' requirements,' seems to be unmistakable. As is well known one can, by the process of 'cramming,' or by the aid of a skilful coach, successfully pass an examination upon subjects of which he has no real knowledge. One of unusual endowment may, no doubt, be able to acquire the theory of medicine in much less time than four years, but that will not suffice to make him a competent practitioner. It requires time for the knowledge derived from text-books and lectures to be organized and appropriated by the student in such fashion that he can make practical application of it. And the statute evidently contemplates that this process shall take place under the guidance and direction of competent instructors. We think there can be no doubt, therefore, that by the words, 'medical college of four years' requirements,' the Legislature meant a college which requires its students, as a condition of graduation, to attend its sessions continuously and regularly for and during a full term of four years, barring, of course, reasonable vacation periods."

In the light of the foregoing we discover no merit in the sixth ground of relator's motion to quash. Not only were the representations material, but as we have thus defined a "medical college of four years' requirements" there was substantial evidence before the Board that they were both false and fraudulent.

In relator's seventh ground it is said that it was "shown conclusively and without contradiction" that relator was a graduate of the Purdy High School with sixteen units of credit. This statement is obviously not borne out by the record. The deposition of Merle Neville Ross, taken at the instance of relator in Chicago, Illinois, May 14, 1927, shows that she was Principal of the Purdy High School in 1915-16; that Ray B. Horton attended a part of that year as a special student; that he graduated and a diploma was issued to him, she believing that she signed it along with Albert Mott who was Superintendent of the Purdy High School at that time; that relator took no work under her but she thought Mr. Mott mentioned to her that he was giving him a

special examination, although she did not remember whether she had ever seen the permanent record of his grades, special examination and graduation; that Mr. Mott had charge of the keeping of these permanent records; that all diplomas bore the signatures of the Secretary and the President of the Board of Education. Without in any way conforming to the statutory method of procuring evidence by deposition counsel for relator at the hearing before the Board on May 25, 1927, produced the ex parte affidavit of Albert Mott, given in Pope County, Arkansas, on May 18, 1927, wherein affiant stated that during the years 1914 to 1919, inclusive, he was Superintendent of the Purdy High School; that Ray B. Horton "was graduated as a special graduate on May 24, 1916, with a credit of sixteen units of high school work"; that his diploma of graduation, showing a credit of sixteen units of work in the high school at Purdy, Missouri, was issued and signed by affidavit as superintendent, by Merle Neville Ross as principal, and by the Board of Education of Purdy, Missouri; that a copy of relator's record in the Purdy High School as it appears in the permanent record of said school was thereto attached and marked "Exhibit A." The record of the proceedings before the State Board of Health further discloses that some two years previous when relator's record in the Purdy High School was first questioned in this matter the School Board at Purdy, through its Secretary, requested this Mr. Mott, who was then located at Augusta, Arkansas, to inform the Board whether he had given relator the special examination he claimed had been given him on correspondence work and whether he had made out the record, copy of which was with said request enclosed. In reply Mr. Mott declined to give the information stating that he would "not attempt to prove or disprove anything." Relator, testifying in his own behalf near the close of the hearing, said that he graduated from the Purdy High School in 1916 with sixteen units of credit and received a diploma or certificates of graduation. Under the statute then in force, sec. 7332, p. 472, Laws 1921, the only evidence receivable by the State Board of Health as to the preliminary qualifications of an applicant for license to practice medicine was "a certificate of graduation from an accredited high school or its equivalent or state normal school, college, university or academy." For reasons best known to himself and not disclosed at the hearing relator apparently did not present to the Board his diploma or certificate of graduation from the Purdy High School but relied upon establishing its equivalent by filing with his application on August 29, 1922, a "Certificate of Preliminary Education" signed and sworn to by the President of the Board of Education purporting to set forth the fact that relator graduated from the Purdy High School at Purdy, Missouri, May 24, 1916, and his grades in sixteen subjects covering a period of four years. Without some evidence of its authentication or approval by the superintendent or executive officer of the school this paper could hardly be regarded as the equivalent of a "certificate of graduation," and from the otherwise unexplained presence in the same file of a paper purporting to be a copy of the Purdy High School record showing relator's attendance and grades and further purporting to have been signed and sworn to by Leslie K. Grimes, Superintendent of the Purdy Schools, on August 31, 1922, the members of the State Board of Health at the hearing were justified in concluding that such had been presented by relator in support of the "Certificate of Preliminary Education" by him previously presented

and filed. The deposition of Leslie K. Grimes positively shows that he never signed this purported copy of the Purdy High School record. The evidence further showed that the only purported record of relator's attendance and grades in the Purdy High School was a loose leaf found in the High School loose leaf record, that this leaf bore a red ink printed form of ruling identical with that appearing on the companion loose leaf bearing said forged certificate of Superintendent Grimes, that no such loose leaf form was ever used in the Purdy High School Record prior to 1920-21, and that no other sheet in the loose leaf record was in the same handwriting. The foregoing and other suspicious circumstances in evidence together with the positive testimony of Charles Rose, who was Secretary of the Purdy School Board continuously from 1912 to 1923, that diplomas or certificates of graduation from the Purdy High School were always signed by both the President and Secretary of the Board and that he never signed any diploma or certificate of relator as a graduate of the Purdy High School, certainly constituted substantial evidence from which the State Board of Health might reasonably conclude that relator made false and fraudulent representations as to his preliminary education as charged in the complaint.

It was not error to overrule the relator's motion to make the charges in said complaint more definite and certain, as urged in relator's eighth ground.

Nor can we say that the finding of the State Board of Health was against the weight of the credible evidence as suggested in relator's ninth ground; or that its order is contrary to the law and facts, as stated in his tenth ground; or that its action "was arbitrary, erroneous, unreasonable and unjust and without authority and jurisdiction," as urged in his eleventh ground.

Relator's twelfth and thirteenth grounds are too general and indefinite for consideration on appeal.

Relator's fourteenth ground is directed to the testimony of E. H. Riske, Secretary of the State Board of Pharmacy, and to complainant's exhibits 20, 21 and 22 identified and introduced in evidence in connection therewith. These exhibits consisted of the affidavit of E. D. Watson, Superintendent of the Purdy High School, given under date of November 29, 1920, stating that R. B. Horton had "satisfactorily completed the 10th grade, which is equivalent to 2 years of High School attendance"; an affidavit as to R. B. Horton's character and drug store experience; and R. B. Horton's affidavit for registration as an assistant pharmacist. We are unable to discover the materiality or relevancy of this testimony or these exhibits, but it does not appear that relator was prejudiced thereby.

What has heretofore been said as to relator's sixth ground also disposes of the fifteenth and last ground of relator's motion to quash.

The entire record of the proceedings and evidence before the State Board of Health reviewed in the light of the points raised on certiorari in the circuit court discloses substantial competent evidence supporting the finding and order of said Board and no proper ground to quash said proceedings. It follows that the action of the State Board of Health in revoking relator's license to practice medicine and surgery should be sustained, and the judgment of the Circuit Court of the City of St. Louis quashing said proceedings and ordering said Board to restore relator's license should be reversed. It is so ordered. All concur except Gentry, J., not sitting.

FRANK E. ATWOOD, J.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

Platte County Medical Society, March 10, 1928.

Miller County Medical Society, March 16, 1928.

Camden County Medical Society, March 23, 1928.

Ste. Genevieve County Medical Society, March 26, 1928.

Atchison County Medical Society, March 30, 1928.

Caldwell County Medical Society, April 14, 1928.

Scotland County Medical Society, May 1, 1928.

Schuyler County Medical Society, May 8, 1928.

Wright-Douglas County Medical Society, May 10, 1928.

Boone County Medical Society, May 23, 1928.

Shelby County Medical Society, September 18, 1928.

Dent County Medical Society, September 19, 1928.

Bates County Medical Society, September 25, 1928.

BUCHANAN COUNTY MEDICAL SOCIETY

The October 3, 1928, meeting of the Buchanan County Medical Society was called to order at 8:15 p. m.

Dr. H. DeLamater, St. Joseph, announced the receipt of a letter from Dr. Percy Houghton, Dean of the Iowa State University School of Medicine, Iowa City, Iowa, in response to an invitation to address our Society, in which Dr. Houghton accepted an invitation to give a talk October 24, 1928, on "Chinese Medicine."

It was moved by Dr. Daniel Morton, St. Joseph, duly seconded and carried, that the Public Health and Legislation Committee be requested to interview all candidates for the State legislature and induce them, if possible, to support the change we are advocating, namely, that the clause "not exceeding in amount the sum of two hundred and fifty dollars" be removed from the law.

Dr. Walter Roger Moore, St. Joseph, moved that the chair appoint a committee to have the By-Laws brought up-to-date. Motion seconded and carried.

The President, Dr. E. A. Gummig, St. Joseph, assigned this work to the medical service committee composed of Drs. F. H. Spencer, W. H. Minton and Daniel Morton, St. Joseph.

The application of Dr. Cecelia King McGill, St. Joseph, having been approved by the censors it was voted on by ballot and Dr. McGill was unanimously elected to membership.

Dr. W. T. Elam, St. Joseph, Chairman of the Public Health and Legislation Committee, reported the ineffectual attempt of the committee to stop quack broadcasting from one of our local stations. Dr. Elam moved that an appeal be made to the Radio Commission, the American Medical Association and the Missouri State Medical Association opposing the class of programs broadcasted as adverse to the health of this community. Motion seconded and carried.

Report of Permanent Quarters Committee: Dr. Daniel Morton, St. Joseph, submitted the following plan:

(1) The Society is hereby directed to create a trust fund to be known as the "Permanent Home Trust Fund of the Buchanan County Medical Society." This trust shall consist of such moneys, properties, real estate or other valuables as may be given to the Society from any source whatsoever for the ultimate purpose of buying a building, or of buying ground and erecting thereon a building to house all the activities of the Society.

(2) The interest only of the trust fund may be used for renting temporary quarters for the Society until such time as a building is built or bought.

(3) The Society shall set aside annually at least twenty-five per cent. of all dues for the "Permanent Home Trust Fund."

(4) By an affirmative vote of three-fourths of the members of the Society present and voting at a special meeting called on thirty days notice for this purpose, the Society may order the said trust fund expended for the purpose intended.

(5) The trustees shall be five in number, members of the Society, each to serve five years, one elected annually by the Society at the regular annual election except that at the first election one shall be elected for one, two, three, four and five years respectively. The trustees shall be bonded by a surety bond paid for by the Society. The trustees shall make semi-annual reports to the Society on January 1 and July 1 of each year, or at any time required by the Society.

(6) The same trustees shall hold in trust and administer any other trust funds of the Society.

On motion, duly seconded and carried, the plans of this committee were adopted by the Society.

It was moved that the committee be instructed to prepare for incorporating the plans into the charter of the Society. Motion seconded and carried.

Dr. Daniel Morton, St. Joseph, moved that the Society go on record as being in favor of the school bonds and use its best efforts in this direction. Motion seconded and carried.

On motion by Dr. Caryl Potter, St. Joseph, action will be taken by the Public Health and Legislation Committee concerning the establishment of a regular department of hygiene in our public schools and the matter will be reported on at the next meeting of the Society.

T. L. HOWDEN, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

On call of the arrangement committee of the Nodaway County Medical Society a special meeting of the Society was held at Maryville, Sept. 27, at 12 o'clock noon. A three course dinner was served at the Hotel Linville to the following guests and members: Dr. James Stewart, Jefferson City, Secretary of the State Board of Health; Drs. J. W. Hardy and Sam H. Snyder, Kansas City; Drs. C. T. Bell, K. C. Cummins, L. E. Dean, H. S. Dowell, C. P. Fryer, C. V. Martin, R. C. Person, F. M. Ryan, F. C. Wallis and W. M. Wallis, Jr., of Maryville; C. J. Garding, Conception Junction; W. M. Hindman, Burlington Junction; C. D. Humbert, Barnard; C. W. Kirk and H. S. Maxwell, of Hopkins.

Dr. Sam H. Snyder, Kansas City, was introduced by the President, Dr. H. S. Maxwell, Hopkins, and gave an informal talk on the late ideas in the symptomatology, diagnosis and treatment of tuberculosis, and illustrated his lecture with X-ray pictures. Dr. Snyder recommended the following clinical classifications of tuberculosis:

(1) Anatomical changes. (a) Minimal; the least amount of pathologic tuberculous changes that physical examination will detect. (b) Moderate; the total tuberculous involvement does not exceed one lobe of a lung, and no cavities are larger than 2 cm. (c) Advanced; extensive involvement of one or both lungs.

(2) Physiological, or the patient's clinical reactions to his infection. (a) Mild; (b) moderately severe; (c) severe, i. e., a patient who is manifestly quite acutely sick.

Dr. Snyder's talk provoked considerable discussion from several members.

Dr. James Stewart, Jefferson City, Secretary of the State Board of Health, complimented us very graciously on our work as a county society and reminded us that we are welcome to use all the facilities of the State Board of Health Laboratories at Jefferson City.

The meeting adjourned, and a number of members went to the county health offices to make examinations at a free chest clinic under the auspices of the Regional Conference of the Missouri Tuberculosis Association.

Meeting of October 12, 1928

The Society held its October meeting at Maryville on Friday, the 12th, at 6 p. m. The sisters of St. Francis Hospital gave their annual staff dinner at Hotel Linville, which was followed by the regular monthly staff meeting at the hospital at 7 p. m.

The Society met in the first floor lecture room of the St. Francis Hospital with the President, Dr. H. S. Maxwell, Hopkins, in the chair. The following members were present: Drs. C. T. Bell, K. C. Cummins, L. E. Dean, H. S. Dowell, C. V. Martin, R. C. Person, F. M. Ryan, F. C. Wallis and W. M. Wallis, Jr., of Maryville; Dr. C. D. Humbert, Barnard; Dr. H. S. Maxwell, Hopkins. Guests: Dr. J. Harold Ryan, Maryville; Mother Augustine, Sisters Gertrude, Helena and Hildegard, of the St. Francis Hospital staff. The minutes of the regular meeting of September 13, and of the special meeting of September 27, were read and approved.

The Secretary, Dr. C. D. Humbert, Barnard, read the application of Dr. J. A. Phipps, Elmo, for membership in the Society. On motion by Dr. Humbert, seconded by Dr. R. C. Person, Maryville, and carried, a committee of investigation was appointed by the president and Dr. Phipps' application was held

over until the next regular meeting. The President, Dr. H. S. Maxwell, Hopkins, appointed a committee consisting of Dr. W. M. Hindman, Burlington Junction; Drs. C. T. Bell and L. E. Dean, of Maryville.

Dr. J. Harold Ryan, Maryville, read a very complete and interesting paper on "Goiter," giving the modern ideas of classification of the types of goiter, a thorough review of the histologic pathology of these various types, and the symptoms produced by them individually. He emphasized the careful supervision needed in the nonsurgical treatment. He illustrated his subject with blackboard sketches and outlines and held his listeners to very close attention.

Dr. H. S. Maxwell, Hopkins, presented a case report of a patient with undulant fever, or Malta fever, a very uncommon or at least usually unrecognized disease in this locality.

On motion by Dr. C. V. Martin, Maryville, seconded by Dr. R. C. Person, Maryville, and carried, the Society adjourned to meet November 9.

CHARLES D. HUMBERD, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Special Meeting of the Council, June 4, 1928

The meeting was called to order at 8:15 p. m. by the President, Dr. Charles Hugh Neilson. The minutes of the meeting of May 9, 1928, were read and approved.

A letter from Dr. J. Wilbur Shankland, Hospital Commissioner of St. Louis, concerning the establishment of a museum of pathology at the St. Louis Medical Society, was read.

Dr. E. C. Funsch moved that a special committee be appointed to consider this offer. Seconded by Dr. C. A. Vosburgh and carried.

A letter from Dr. Fred Bailey, relative to an additional subscription to be utilized toward defraying the expense of a suitable memorial in the shape of a tablet containing the names of all donors to the building fund, was read and no action taken.

Dr. George T. Gafney read the report of the membership committee.

On motion of Dr. John Green, seconded by Dr. R. B. H. Gradwohl, and carried, the members were voted on individually and the following were elected:

Active, James G. Hughbanks, Missouri Pacific Hospital; Lawrence D. Thompson, Barnes Hospital. Junior, Powell B. Cappel, 4511 N. Newstead Avenue; John A. Hartwig, 2806 N. Grand Boulevard; Henry P. Thym, City Hospital. By transfer, Elmer E. Sexton, Frisco Building.

The report of the library committee was read by Dr. I. H. Boemer.

Dr. Henrietta A. S. Borck appeared before the Council relative to the hanging of pictures of the International Congress at Copenhagen and of Dr. Edward Borck. The Council was in accord with Dr. Borck's wishes and the house committee was directed to confer with her later concerning appropriate places for these pictures.

Representatives of the Southwestern Bell Telephone Company appeared before the Council to discuss informally the proposal of the Telephone Company to charge for listing office telephones of physicians in the classified directory. They emphasized the desire of the company to take no action in this matter prejudicial to the good will of the medical profession and intimated that the proposed charge would probably never be inaugurated.

The report of the necrology committee was read by the secretary and on motion accepted.

The report of the disaster relief committee was

read by Dr. Fred Bailey and on motion accepted.

Dr. E. C. Funsch read the report of the house committee.

It was moved that the Committee on Revision of Constitution and By-Laws be instructed to amend the By-Laws to include one regular meeting of the Council in June, subject to the call of the president. Seconded and carried.

The report of the treasurer was read by the secretary and on motion of Dr. Bailey, seconded by Dr. Gradwohl, the report was received.

Dr. Neilson reported orally on the campaign for funds to complete the building project, and on motion the report was received.

Councilors present: Drs. Fred Bailey, E. C. Funsch, R. B. H. Gradwohl, John Green, John F. Hardesty, F. J. V. Krebs, C. H. Neilson, Amand Ravold, Francis Reder, H. Unterberg, C. A. Vosburgh, Roland S. Kieffer. Councilors absent: Drs. J. F. Mayes and R. E. Schlueter.

Visitors present: Drs. Irving H. Boemer, George T. Gafney.

Meeting of the General Society June 5, 1928

The meeting was called to order at 8:30 p. m. by the President, Dr. Charles Hugh Neilson. The minutes of the meeting of May 29, 1928, were read and approved.

The scientific program consisted of the following: "Diabetes Insipidus. Brief History and Presentations of Interesting Case," Dr. Harold A. Bulger.

"A Case of Diabetes Insipidus with Pituitary Tumor—Presentation of Specimen," Dr. Arthur E. Strauss.

"A Brief Summary of the Etiology of Pernicious Anemia," Dr. Charles Duden.

"The Neurological Aspect of Pernicious Anemia. Its Significance as an Early Diagnostic Factor," Dr. Archie D. Carr.

"Liver Diet and Liver Extracts. A Consideration of Their Results as a Therapeutic Agent," Dr. Lawrence D. Thompson.

"Liver Extract in Pernicious Anemia. The Results in Several Cases," Dr. Louis H. Behrens.

Discussion by Drs. George Ives, Sam Grant, A. P. Munsch; Drs. Thompson and Behrens, closing.

Attendance 125.

Meeting of September 18, 1928

The meeting was called to order at 8:35 p. m. by the Chairman, Dr. Charles Hugh Neilson. The minutes of the meeting of June 5, 1928, were read and approved.

The scientific program consisted of the following: "The Diagnosis of Diaphragmatic Hernia With Report of Case," illustrated with lantern slides, Dr. Edwin J. Schisler.

"Carcinoma of the Cervical Esophagus," with patient and lantern slide demonstration, Dr. Ellis Fischel.

"Perinephritic Abscess (Rupture Into Lung With Recovery) With Report of Case," Drs. J. Hoy Sanford and Howard A. Rusk.

Discussion by Drs. Paul F. Titterington, Francis Reder, Norvelle Wallace Sharpe, Major G. Seelig; Drs. Schisler, Fischel and Sanford closing.

Attendance 75.

Meeting of September 25, 1928

The meeting was called to order at 8:30 p. m. by the President, Dr. Charles Hugh Neilson. The minutes of the meeting of September 18, 1928, were read and approved.

The scientific program was contributed by the de-

partment of pediatrics of Washington University School of Medicine and consisted of the following: "Observations on the Nature of Scarlet Fever," Dr. Jean V. Cooke.

"Observations on the Nature of Rheumatic Fever," Dr. E. Irvine Jones.

"Newer Viewpoints Concerning the Nature of Acidosis in Children," Dr. Alexis F. Hartmann. "Atropine Fever," Dr. Park J. White.

Discussion by Drs. John Zahorsky and Paul J. Zentry; Drs. Cooke and Hartmann closing. Attendance 125.

ROLAND S. KIEFFER, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held in the First Congregational Church, Webster Groves, Wednesday, October 10, 1928. The meeting was called to order at 3:20 p. m. by the President, Dr. F. P. Knabb, Valley Park, with the following members present: Drs. Henry N. Corley, Carl C. Irick, Horine Miles, Wm. F. O'Malley and Arthur W. Westrup, of Webster Groves; E. O. Breckenridge, W. H. Townsend and E. E. Tremain, of Maplewood; C. P. Dyer and Otto W. Koch, of St. Louis; John H. Sutter and Harry Greensfelder, of University City; Otto N. Schudde, Ferguson; John H. Armstrong, Kirkwood. Visitors: Dr. Borden S. Veeder, of the St. Louis Children's Hospital, and Dr. F. C. E. Kuhlmann, Webster Groves.

An excellent paper was given by Dr. Borden S. Veeder, St. Louis, on the "Treatment and Care of the Prevalent Diseases of Childhood," which was both interesting and instructive.

E. E. TREMAIN, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.
President-Elect, Mrs. M. P. Ravenel, Columbia.
1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. James F. Owens, St. Joseph.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.
Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Schaffler, Kansas City; Mrs. Hudson Talbott, St. Louis; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Hinchey, University City; Mrs. H. A. Brierly, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler

ORGANIZED COUNTIES AND PRESIDENTS OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. H. C. Brashear.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph

COUNTY	PRESIDENT	ADDRESS
Butler.....	Mrs. L. B. Knecht.....	Poplar Bluff
Caldwell.....	Mrs. Emma A. B. Thompson..	Breckenridge
Cape Girardeau..	Mrs. W. W. Ford.....	Gordonville
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Davies.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. J. N. Barger.....	Albany
Greene.....	Mrs. Paul F. Cole.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
Henry.....	Mrs. R. D. Haire.....	Clinton
Holt.....	Mrs. F. E. Hogan.....	Mound City
Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
Jasper.....	Mrs. C. C. Cummings.....	Joplin
Johnson.....	Mrs. H. F. Parker.....	Warrensburg
Knox.....	Mrs. W. F. O'Connor.....	Edina
Laclede.....	Mrs. J. C. Scott.....	Lebanon
Lafayette.....	Mrs. J. D. Guyot.....	Higginsville
New Madrid.....	Mrs. P. M. Mayfield.....	Portageville
Phelps.....	Mrs. A. S. McFarland.....	Rolla
Pike.....	Mrs. T. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Francois.....	Mrs. G. L. Watkins.....	Farmington
St. Louis City.....	Mrs. Raymond M. Spivy.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar....	Mrs. T. B. Todd.....	Nevada

BATES COUNTY AUXILIARY

The August meeting of the Bates County Auxiliary was held jointly with the Bates County Medical Society in the Court House at Butler. The Medical Society had arranged a most interesting meeting.

Dr. Sam H. Snider, Kansas City, gave a talk on "Tuberculosis" and Dr. E. R. Deweese, Kansas City, showed interesting X-ray pictures of broken bones.

There was a large attendance and the Auxiliary enjoyed the meeting. The following officers were elected: President, Mrs. E. N. Chastain, Butler; vice president, Mrs. A. B. Freeman, Rockville; secretary-treasurer, Mrs. J. S. Newlon, Butler.

GENTRY COUNTY AUXILIARY

The Women's Auxiliary to the Gentry County Medical Society is a wide-awake organization, meeting regularly and having a splendid program at each meeting.

In July we studied "Heroes of Medicine," in August a miscellaneous program, and in September "The Modern Youth."

We have our programs arranged for each meeting during the year. There will be three joint meetings with the Gentry County Medical Society during the year, at which time we will talk over plans and problems together, and enjoy a delightful social hour afterwards.

We elected officers in April and at that time we had fourteen members. We now have twenty-seven members and hope to have more before the year is ended.

We are making a drive for Hygeia subscriptions, the "Six Point" test for school children, and a survey for crippled children in the county.

Our meetings are so interesting we all look forward to each one with a great deal of pleasure.

Mrs. J. N. BARGER, President.

GREENE COUNTY AUXILIARY

Mrs. Paul F. Cole, Mrs. S. F. Freeman and Mrs. J. P. McGann, of Springfield, recently entertained the members of the Greene County Auxiliary at one o'clock luncheon in the home of Mrs. Cole. The three hostesses are the new officers of the club. Luncheon was served on several small tables group-

cd about the entertainment rooms. Each table was centered with a vase of rose buds.

Following the luncheon, a business meeting was held and plans were made for the year.

The program consisted of vacation reminiscences.

The following members were present: Mrs. G. D. Callaway, Mrs. W. C. Cheek, Miss Elcanor Cox, Mrs. C. B. Elkins, Mrs. E. L. Evans, Mrs. J. P. Ferguson, Mrs. E. M. Fessenden, Mrs. Charles A. George, Mrs. A. W. Gifford, Mrs. W. E. Handley, Mrs. F. T. H'Doubler, Mrs. Garrett Hogg, Mrs. O. C. Horst, Mrs. T. O. Klingner, Mrs. Arthur D. Knabb, Mrs. R. L. Pipkin, Mrs. G. M. Powell, Mrs. J. A. Robertson, Mrs. W. S. Sewell, Mrs. M. C. Stone, Mrs. Robert Williams and Mrs. J. W. Williams, of Springfield.

HENRY COUNTY AUXILIARY

According to word from Mrs. Robert D. Haire, Clinton, retiring President of the Henry County Auxiliary, the following officers have been elected: President, Mrs. G. S. Walker, Clinton; vice president, Mrs. S. A. Poague, Clinton; secretary-treasurer, Mrs. J. A. Strickland, Clinton.

JASPER COUNTY AUXILIARY

The Women's Auxiliary to the Jasper County Medical Society was organized on June 8, 1928, with an excellent attendance and show of enthusiasm on the part of the members. It is their plan to hold four meetings a year beginning with September, 1928. The following officers were elected: President, Mrs. C. C. Cummings, Joplin; first vice president, Mrs. J. E. Douglass, Webb City; second vice president, Mrs. E. D. Hatcher, Carthage; secretary, Mrs. S. A. Grantham, Joplin; treasurer, Mrs. R. L. Neff, Joplin.

LAFAYETTE COUNTY AUXILIARY

The Lafayette County Auxiliary is doing some very constructive work and hopes to have most of the eligible women in the county as members before the new year. The officers are as follows: President, Mrs. J. De Voine Guyot, Higginsville; 1st vice president, Mrs. W. E. Martin, Odessa; 2d vice president, Mrs. C. T. Ryland, Lexington; secretary, Mrs. Odus Liston, Oak Grove; treasurer, Mrs. B. T. Payne, Lexington.

JOINT MEETING NODAWAY COUNTY MEDICAL SOCIETY AND WOMEN'S AUXILIARY

The Nodaway County Medical Society gave a dinner to its members and the Women's Auxiliary at Hotel Linville, Maryville, September 14, 1928. The principal speakers were Dr. E. J. Goodwin, Secretary of the Missouri State Medical Association, St. Louis; Drs. James E. Stowers and Evan S. Connell, of Kansas City.

Following the dinner the doctors went to St. Francis Hospital, Maryville, for a joint meeting with the hospital staff. The Women's Auxiliary held its regular meeting at the home of Mrs. C. T. Bell, Maryville. The Auxiliary meets but once every three months.

Covers for the dinner were laid for Dr. E. J. Goodwin, St. Louis; Drs. James E. Stowers and Evan S. Connell, of Kansas City; Dr. and Mrs. H. S. Maxwell and Dr. and Mrs. C. W. Kirk, Hopkins; Dr. and Mrs. E. L. Crowson, Pickering; Dr.

W. M. Hindman, Burlington Junction; Dr. C. D. Humbert, Barnard; Dr. and Mrs. C. P. Fryer, Dr. and Mrs. R. C. Person, Dr. and Mrs. L. E. Dean, Dr. and Mrs. C. T. Bell, Dr. Frank C. Wallis, and Dr. W. M. Wallis, Jr., Maryville.

THE REGISTRATION OF ALL CRIPPLED CHILDREN

The following interesting data on the registration of all crippled children in Missouri were sent to Mrs. Willard Bartlett, State President of the Women's Auxiliary, by Miss Alberta Chase, Executive Secretary of the Missouri Society for Crippled Children:

Since the Women's Auxiliary of the Missouri State Medical Association is formally committed to the spirit of co-operation among health agencies they will undoubtedly be interested in a cooperative measure which has been launched by the Missouri Society for Crippled Children, namely, the state-wide census of every crippled child in Missouri.

This census has been made by the Missouri Society for Crippled Children at the request of the State Commission appointed at the last session of the legislature. The personnel of the Commission follows: Dr. A. H. Baldwin, Pleasant Hill, Chairman; Dr. James Stewart, Jefferson City, State Health Commissioner; Mr. Charles A. Lee, Jefferson City, State Superintendent of Schools; Senator Bayliss Gordon, Liberty; Dr. Rexford L. Diveley, Kansas City.

In September, the public, private, and parochial schools were asked to fill out census blanks sent them from the office of the Society in Jefferson City. At the same time the cooperation of various public and private health and welfare agencies was enlisted and secured.

The main purpose of the Society in securing the cooperation of the organizations and individuals above referred to was to list all children not in school including the pre-school child, the home-bound cripple and the young cripple already at work.

Hundreds of cards have been received at the main office of the Society in Jefferson City which reveal many pathetic stories of crippled children uncared for and neglected through one cause or another. As soon as all returns have been received the statistics will be compiled and turned over to the Commission.

The Commission is required to make a report to the next session of the legislature concerning the situation in Missouri and it is expected that a large part of the report will be based upon the information thus obtained. In addition the Commission has made a study of how other states, such as Oklahoma and Ohio, care for their crippled children so that adequate recommendations can be made to the next session of the legislature.

HYGEIA RATES

Hygeia rates have been announced by Mr. F. V. Cargill, Circulation Manager of Hygeia, Chicago. These rates will obtain in the contest for Missouri Auxiliary women as announced by the State Hygeia Chairman, Mrs. W. T. Martin, Albany, in the October *Journal*. It is felt that this will be of interest to many of the young daughters of physicians who are eligible to membership in the Auxiliary as well as to their mothers. The rates follow:

HYGEIA		
	Rate	Commission
One-year subscriptions	\$3.00	\$1.25
Two-year subscriptions	5.00	1.50
Introductory Offer (for new subscribers)		
Five-month subscriptions	1.00	0.35
HYGEIA AND "HEALTHYLAND"		
	Rate	Commission
One-year subscriptions	\$4.00	\$1.25
Two-year subscriptions	6.00	1.50
One copy of "Healthyland" may be obtained by the representative for display purposes at half price, 75 cents.		

HYGEIA AND "HEALTH EDUCATION"		
	Rate	Commission
One-year subscriptions	\$3.00	\$1.25
"Health Education" may be obtained as a premium on new orders for yearly subscriptions at \$3.00. Requests for "Health Education" should be indicated clearly on the order form.		
One copy of "Health Education" for display purposes may be obtained by the representative for 50 cents.		

HYGEIA, "HEALTHYLAND" AND "HEALTH EDUCATION"		
	Rate	Commission
One-year subscriptions	\$4.50	\$1.25

These subscriptions should be clearly marked as orders for Hygeia, Healthyland," and "Health Education."

The commission on all cash orders should be deducted before the remittance is sent in. Commission and premiums on unpaid orders will be allowed when full payment is received; unpaid orders may be taken with the understanding that payment will be made within thirty or sixty days.

Renewals count the same as new orders when the full subscription price is paid.

Orders should be listed on the green report blanks. Separate sheets should be used for letters or for requests for Hygeia material. All communications should be addressed to Circulation Manager, Hygeia, 535 N. Dearborn St., Chicago, Ill.

MESSAGE FROM DR. MORRIS FISHBEIN, EDITOR, THE JOURNAL A. M. A., FOR WOMEN'S AUXILIARY YEAR-BOOK

October 8, 1928.

To the Women's Auxiliary of the Missouri State Medical Association:

I am a believer in the Women's Auxiliary to the American Medical Association because I know by demonstration what it can accomplish. I have seen its fine work on behalf of Hygeia. I have seen its influence in the promotion of attendance at medical meetings. I have seen its share in entertainment and in arranging programs of women's organizations. It has begun to fill a definite place in medical life. More power to it!

MORRIS FISHBEIN.

Notes

The Women's Auxiliary furnished a speaker at each of the four regional health conferences of the Missouri Tuberculosis Association. Each speaker was assigned the subject of the health program of the Women's Auxiliary.

The speaker at the Kansas City conference was Mrs. George H. Hoxie, Kansas City; at Kirksville, Mrs. Robert W. Berrey, Mexico; at Cape Girardeau, Mrs. Willard Bartlett, St. Louis; at Warrensburg, Mrs. W. M. Bickford, Marshall.

Mr. J. W. Becker, St. Louis, Executive Secretary of the Missouri Tuberculosis Association, expressed his appreciation of the service of the Auxiliary in sending speakers to the health conferences. "I think the whole affair was an experiment," Mr. Becker said, "that demonstrated the value and desirability of team work on the part of state official and non-official agencies, and brought home to teachers' colleges at which the conferences were held their responsibility in child health education, impressed local workers with the dignity and importance of the cause and brought to the students messages showing the value and breadth of the constructive state health program in which they have a large share."

A list of the presidents of county auxiliaries and members of the State Board was given Dr. E. L. Morgan, Graham, President of the Conference of Missouri Social Welfare Association, previous to its state conference at Columbia in September.

A similar list was furnished the State Board of Health so that its monthly bulletin may be sent to officers of the Auxiliary.

Mrs. Willard Bartlett, St. Louis, State President of the Women's Auxiliary; Mrs. Raymond M. Spivy, President of the St. Louis Auxiliary; Mrs. John Green, Mrs. W. H. Luedde and Mrs. M. Haywood Post, Jr., of St. Louis, composed the reception committee who assisted the Missouri Association for the Blind in the awarding of the Leslie Dana Medal at Hotel Chase, St. Louis, October 18, 1928.

Books for Leisure Moments

There is no one more capable of writing a book about a country, its people and its customs, than one who has actually lived in that country. "Unfathomed Japan" (The Macmillan Company), written by an American educator and his wife, Mr. and Mrs. Harold W. Foght, is a book of great value because the authors tell us about Japan as it really is—the worst of it and the best of it. This volume is a friendly fellow traveler and a lively chronicle of daily adventures of the authors. They did not travel just the beaten paths taken by tourists, but took the less known byways where the real heart of Japan is and where its real makers live.

Mrs. Foght was in fact the first Western woman ever to tread certain paths and to see certain intimate sights hitherto closed to people not Japanese. The courtesy of the government gave the visitors entree to Japan's real home life and her official life as well. They were guests of the National Association for the Encouragement of Learning and of one of Japan's great daily papers. They tell their story with real sympathy and with an understanding of the Japanese people.

In a very realistic manner the story of the last hours of their voyage is related, making the reader almost feel as though he might have been present on the ship. One hundred miles from the shore the Orient seemed really to begin. On the pier the Orient and the Occident could be seen, literally speaking, rubbing shoulders—a great concourse of humanity, but with hearts very much alike the world over, be their skin white, black, yellow, brown or red.

In the opening pages of the volume the authors give us their first impressions of Japan, and we are quite interested as we continue reading to discover how they changed some of these ideas and retained others as they became more acquainted with the Japanese people.

Excellent descriptions of the country are given and we cannot help but feel its beauty. In no other country in the world perhaps, these authors tell us, is the soil tilled more intensively or with greater care than in Japan. When we think of the enormous acreage of some of our American farms it is quite a surprise to learn of the size of Japanese farms, not more than two acres being allowed one family. However, almost every foot of the two acres is under cultivation.

After reading this book we feel that we have made great progress in becoming acquainted with the Japanese people. We have learned of their life as they really live it and where the real heart of Japan is found. We learn about the tillers of the soil, the seekers after food in the sea, the small artisans, the homely sages, the village schoolmasters, and all other folk of that strange but most interesting country. We are taken on a visit into Japanese homes, into their schools and theaters, and are admitted to many functions some of which are not usually open to foreigners.

We are indeed indebted to Mr. and Mrs. Foght for a better insight and a clearer understanding of the Japanese people and their country. L. M. C.

A new book, published in May, entitled "Creation by Evolution" (The Macmillan Company), is one that should create a widespread interest. It is a compendium of present day information set forth by leading authorities in non-technical language that all may understand. No word, it is said, in any language at the present time is so comprehensive as this, and few words are so misunderstood. The

original import of the word "evolution,"—to unfold, or to unroll, as a flower for example is unfolded—is too restricted because "evolution" is far more than the unfolding of something that already exists, as the germ develops or unfolds in the beauty of the rose. Evolution is the constant or incessant appearance of new qualities, new characters, new powers, new beauties, for which there is no antecedent in experience or no evident promise in the germ itself.

This book does not attempt to explain the origin of life or to determine the causes that lie behind the changes in living things from age to age. It attempts to show us there *are* changes and to describe how they come about. This book is the result of a wish to obtain the judgment of leading scientific scholars of the English speaking world concerning our present knowledge of how living things in Nature come about,—to obtain actual evidence of Nature's method of creation. The revelation of creation by evolution which comes to us through science should widen and exalt our outlook on life and our religious faith, and this book was prepared and presented to the reading public with the hope that it might lead to a more general understanding of Nature and Nature's ways.

The first chapter, written by David Starr Jordan, is particularly interesting. He takes up the study of the term "evolution" and its meaning. We find that evolution as the word is now used means the universal process of orderly change. As this process occurs throughout all that we know, evolution becomes another name for Nature. There are two classes in the process, the cosmic changes in suns and planets and the organic changes in all living things. Accepting this fact of orderly change we face a more difficult problem; how are these changes brought about? Here we no longer find unanimity of opinion because in the myriad of facts at our disposal no single man can master their enormous range and their diverse aspects. The author uses the example of the diversity of opinions thusly: A forest is not the same to a lumberman as to a landscape gardener.

A chapter, "Can We See Evolution Occurring?" is written by Herbert Spencer Jennings. He shows a thorough knowledge of his subject, and should indeed, because he holds the position of professor of zoology at Johns Hopkins University. In this chapter he tells us that organic evolution is a physiological process like the digestion of food; it is something that is occurring at all times including the present. We cannot directly see the growth of a tree but by taking photographs at intervals and running them through a moving picture machine we can see the tree grow and we can determine the extent of its growth. We do not understand the causes of these changes and we do not know how they are produced, but our ignorance must not be allowed to obscure the essential fact—the fact of an actual change.

A very comprehensive study is carried on throughout the book on evolution from plant life on through the animal world. Our business, one author contends, is to strive to mold the known material forces of dead and living matter in accord with the spiritual ideals of value which we possess. In connection with the discussion of evolution the question arises which we should feel is gravely important: What is the bearing of evolution on the religious convictions of the majority of people? Time was when the idea was held that belief in evolution was incompatible with belief in God and that one must choose between the two. However there is no inconsistency, it is claimed, in believing in both. Many thinkers of this day are convinced that only in the light shed

by the knowledge of evolution does the full richness of divine purpose manifest itself.

This volume is of great value because leading biologists of England and America, men distinguished in many special lines of research, have cooperated in a great endeavor to prepare it. A very comprehensive study of evolution is set forth in the book, reliably and simply, by these eminent authorities; and, as one author has mentioned, there are few words in any language at the present time so misunderstood. In this volume the subject is fully treated from every angle and in its every aspect. L. M. C.

PROPAGANDA FOR REFORM

THE INJECTION TREATMENT OF VARICOSE VEINS.—The injection treatment for the obliteration of varicose veins is attracting increasing attention. The French school, under the leadership of Sicard, has been using sodium salicylate in solutions of from 20 to 40 per cent. Linser used 20 per cent. sodium chloride solution, and reported 6,000 injections. Nobile, in Germany, has made injections in 3,000 patients with 50 per cent. dextrose. Meisen uses equal parts of 25 per cent. solution of sodium salicylate and 10 per cent. sodium chloride. In this country, McPheeters has reported favorable results with sodium salicylate. The most important consideration in connection with the injection method is the danger of pulmonary embolism. Thus far, reports of four cases of fatal pulmonary embolism seem to be available. Of these, two occurred after correct technic and therefore appear unavoidable. Against these two fatalities there are reports of 14,000 successful injections. The efficacy of the method will depend much on the proper selection of cases. Definite contraindications to the injection method include cardiac and renal disease accompanied by venous stasis and dilatation of veins, hypertonus, changes in and obliteration of the deeper veins, pregnancy, and large intrapelvic tumors. (Jour. A. M. A., August 4, 1928, p. 322.)

DANGERS OF LARGE DOSES OF ACETYSALICYLIC ACID.—If large doses of acetylsalicylic acid are to be administered, the urine would have to be watched for evidence of kidney irritation, as albuminuria, hematuria and even actual nephritis may be produced. If albuminuria is present previous to the administration, an increase in the nonprotein blood nitrogen and a lessening in the phenolsulphonphthalein output must be guarded against. Any form of skin eruption, itching, or any degree of gastric irritation would call for reconsideration of such dosage. Also tinnitus and other impairment of nerve function needs to be looked for. (Jour. A. M. A., August 4, 1928, p. 344.)

EU-MED NOT ACCEPTABLE FOR N. N. R.—The Council on Pharmacy and Chemistry reports that Eu-Med is a preparation manufactured by Dr. Tell & Co., Berlin, Germany, and distributed in the United States by The Oracee Co., Cleveland, Ohio. The preparation is marketed in the form of tablets which are claimed to contain 0.05 Gm. of caffeine and 0.15 Gm. each of acetphenetidin, antipyrine and amidopyrine. The advertising advocates the promiscuous use of the tablets for a large number of conditions. This indiscriminate use is encouraged by such statements in the advertising as: "... Eu-Med is an absolutely harmless remedy which can be used without any fear by every physician and may be prescribed together with any other medicine." A circular intended for dentists states: "This remedy has proven successful in all cases. Nervous

pains, for instance, trigeminus neuralgia, headache of every description, toothache, woundache, after the end of a local anesthesia, are eliminated with 'Eu-Med.' In the advertising it is stated that the name Eu-Med is short and therefore easy to remember and that it means "good medicine." Each tablet has the name "Eu-Med" stamped on it. This, with its suggestive name, invites its promiscuous use by the public. The Council found Eu-Med unacceptable for New and Nonofficial Remedies because it is a complex, irrational mixture marketed with unwarranted therapeutic claims under a nondescriptive therapeutically suggestive name and in a way to invite its indiscriminate and ill advised use by the laity. (Jour. A. M. A., August 11, 1928, p. 397.)

CONVALESCENT SERUM IN EPIDEMIC POLIOMYELITIS.—The main indication for treatment in this disease is the prevention of paralysis, which is due to the action of the poliomyelitic virus on the nerve cells that preside over movement and nutrition of voluntary muscles. Fortunately there is a period in the evolution of the attack of poliomyelitis during which it may be possible to neutralize the virus before it can develop its maximum destructive effects on the motor nerve cells. There seems to be no question that poliomyelitis can be recognized in this stage. The results obtained from intraspinal and intravenous injections of convalescent serum are encouraging. Theoretical considerations and the results of careful observation appear to justify fully the further trial of convalescent serum in preparalytic poliomyelitis. Jour. A. M. A., August 11, 1928, p. 398.)

BARBITAL AND RELATED HYPNOTICS.—Many substitutes for barbital have been introduced with the claim of greater relative hypnotic action as compared with toxic effects. The toxic action appears to be mainly an intensification of the depression of the central nervous system which in therapeutic doses produces nearly normal sleep; hence their hypnotic activity and their toxicity must run closely parallel, so far as the central nervous system is concerned. An experimental study of a number of hypnotics of the barbital series on cats showed that none were much more actively hypnotic in proportion to their toxicity than barbital. Of the five hypnotics examined, none exerted marked analgesic effects with less than 30 per cent. of the average fatal dose. None of the hypnotics produced any uniform change in the heart rate or respiratory rate. From this study one does not gain the impression that any of the substitutes possesses all the advantages and none of the disadvantages of the official barbital. Probably the actual toxicity for man is nearly proportional to the hypnotic action. (Jour. A. M. A., August 11, 1928, p. 398.)

PEDODYNE FOR BUNIONS.—The "Kay Laboratories" of 180 North Wacker Drive, Chicago, is the trade style used by one George J. Katz in selling quack remedies for bunions, corns, chilblains and perspiring feet. The name of George J. Katz is not unknown to quackery. The name of Katz does not appear in the advertising of the Kay Laboratories. Instead the circular letters are signed "George J. Kay," who, doubtlessly is nonexistent. In order that the public and medical profession might know something about this "most scientific" treatment for bunion trouble, the A. M. A. Chemical Laboratory analyzed "Pedodyne." From its analysis, the Laboratory concludes that a product having the essential composition of the ointment part of Pedodyne for Bunions may be made by melting 300 parts by weight of animal fat and adding 3.6 parts by weight of salicylic acid, 3.5 parts by weight of phenol and

one part by weight of iodine, to which is added a relatively small amount of camphor and menthol. The Laboratory concludes that a preparation having the essential composition of Pedodyne Foot Aid—which accompanies the ointment—may be made by mixing together talc, 40 parts, boric acid, 40 parts, borax, 10 parts, alum, 5 parts, zinc oxide, 3 parts, salicylic acid, 1 part. That the use of these preparations will cure any case of hallux valgus (bunion) is a claim that to physicians is obviously false. (Jour. A. M. A., August 11, 1928, p. 415.)

"DENICOTINIZED" TOBACCO.—So-called denicotinized tobaccos and tobacco products for which reduced nicotine content is claimed or implied by label declaration are now being offered for sale. Some of these are claimed to be "absolutely harmless." The Connecticut Agricultural Experiment Station has published a report on denicotinized tobaccos which shows that the nicotine content of these products varies considerably just as in the case of ordinary tobaccos. As a group they were found to contain somewhat less nicotine than tobacco. Some "denicotinized" products on sale contained as much nicotine as is likely to be found in ordinary tobaccos; a few contained substantially less. None of the "denicotinized" tobaccos examined are sufficiently poor in nicotine to warrant unrestricted indulgence on the part of consumers who suffer ill effects from this alkaloid. It is pointed out that the consumer of "denicotinized" tobacco products may consume larger quantities than of the ordinary product, partly because he believes it to be largely or entirely freed from its objectionable nicotine, and partly in an unconscious effort to secure the satisfying effects he is accustomed to derive. Consequently his actual nicotine intake may equal or exceed his usual consumption. (Jour. A. M. A., August 18, 1928, p. 501; August 25, 1928, p. 583.)

THE CUNNINGHAM "TANK TREATMENT."—Dr. Orval J. Cunningham, of Kansas City, Mo., has been treating certain pathologic conditions by means of compressed air over a period of some years. In Kansas City he has constructed a cylindrical tank about ten feet in diameter and nearly ninety feet in length. The tank is said to be equipped with air lock, toilets, shower baths, compartments, and Pullman car equipment. Newspapers report that a tank is to be constructed in Cleveland. Advertising for a concern that was to operate the Cunningham "treatment" in California declared, "it now appears positively proven that syphilis, pernicious anemia and diabetes are curable by this method. . . ." Dr. Cunningham's thesis is that diabetes mellitus, pernicious anemia, syphilis, hypertrophic arthritis and carcinoma are all due to bacteria of an anaerobic type. He holds, further, that the oxygen content of the tissues is greatly increased when the patients are put in his compressed-air tank and that the compressed air treatment is curative in certain cases of diabetes mellitus, pernicious anemia, hypertrophic arthritis, syphilis and carcinoma. The status of the "tank treatment" is obvious; Dr. Cunningham claims unusual results for his treatment but has published no case reports nor furnished the medical profession with any evidence to support the claims. His thesis is altogether without proof. (Jour. A. M. A., May 5, 1928, p. 1494.)

EXAMINATION OF THREE CAFFEIN-REDUCED (So-called Decaffeinated) COFFEES.—The A. M. A. Chemical Laboratory reports on the caffeine content of the most widely advertised caffeine-reduced (decaffeinated) coffee products. The products examined were: Blanke's Refined Health Coffee, made by the Blanke Health Coffee & Tea Corporation, St. Louis,

a coffee extract said to be made by a process which results in caffeine reduced approximately 90 per cent. Kaffee Hag, marketed by the Kaffee Hag Corporation of Cleveland and recently purchased by the Kellogg Co., Battle Creek, Mich., marketed with the claim that 97 per cent. of the caffeine has been removed. Sanka Coffee, sold by the Sanka Coffee Corporation, New York, which was recently purchased by the Postum Co., is sold with the claim: "Sanka Coffee Caffeine free 97%." The Laboratory found the following percentages of crude caffeine content determined by weight in the specimens examined: Blanke's Refined Health Coffee, 3.98 per cent.; Kaffee Hag, 0.50 per cent.; Sanka Coffee, 0.28 per cent. The Laboratory points out that the claim that a certain per cent. of caffeine has been removed, means little if the original caffeine content is not stated. Coffee varied in caffeine content from as little as 0.1 per cent. to as much as 7 per cent., though the latter figure is very exceptional. Obviously, without knowing how much caffeine is in the original coffee (which the manufacturers do not state), it is impossible to calculate the amount removed. Further, the figures of caffeine removal mean little because the quantity of coffee used is the factor in determining the amount of caffeine consumed. The Laboratory states that numerous investigators have shown that an ordinary cup of coffee contains from 0.1 to 0.12 Gm. ($1\frac{1}{2}$ to $1\frac{3}{4}$ grains) of caffeine. The Laboratory calculated the amount of caffeine which might be expected to be contained in a cup of coffee made according to directions: Blanke's Refined Health Coffee, 1 grain; Kaffee Hag, almost 1 grain; Sanka Coffee, about $\frac{1}{2}$ grain. By actual trial following the firm's directions the Laboratory found one cup of coffee made from Kaffee Hag to contain $\frac{3}{4}$ grain of caffeine and a cup made from Sanka Coffee to contain 0.4 grains. (Jour. A. M. A., September 22, 1928, p. 880.)

When the facts brought out by the A. M. A. Chemical Laboratory examination of caffeine-reduced coffees were brought to the attention of the manufacturers, the concerns involved immediately began checking up on their products. The Kaffee Hag and Sanka products changed hands about the time of the examination. From evidence that has been submitted since the A. M. A. analyses were made, it seems to be a fact that both Kaffee Hag and Sanka now contain caffeine in such minimal amounts as to be practically negligible. The third preparation, Blanke's Refined Health Coffee, still contains a relatively large amount of caffeine. Kaffee Hag and Sanka are now submitted by their manufacturers to daily checks of caffeine content, a procedure which did not prevail prior to the analyses by the A. M. A. Chemical Laboratory. (Jour. A. M. A., September 22, 1928, p. 886.)

ORLANDO EDGAR MILLER.—Recently a Canadian paper reported that the question of deporting "Dr." Orlando Edgar Miller was being considered by the Canadian authorities. For the past few years Miller's line has been "applied psychology" and motion picture company promoting. In the early nineties, Miller was running a "rupture cure" concern. Subsequently he is reported to have exploited a "medicated sand treatment" as a "sure cure for dyspepsia." Then he organized the "St. Luke's Society," to exploit a "cure" for drug addiction. His next venture was a combination "university" and "sanitarium." Then he founded the "International Institute for the Treatment of Tuberculosis" and later transferred his activities to Europe. In 1920 Miller was back in America as the "Affirmative Apostle of Intense Individuality." He went to California in 1921 and

organized a motion picture concern known as the "Rellimeo Film Syndicate." In 1925 he was reported under investigation by the grand jury of Boston as a promoter of the "Temple of Psychology." Buffalo papers then reported his arrest on the charge of grand larceny. In January, 1927, two warrants were issued against Miller, one charging embezzlement and the one charging violation of the state corporate securities law of California. (Jour. A. M. A., April 14, 1928, p. 1235.)

OVALTINE.—According to the manufacturer, Ovaltine "is a concentration of the nutritive constituents of malt, milk and eggs, flavored with cocoa." In other words, the product is essentially a chocolate-flavored malted milk to which has been added a small amount of dried egg substance. The company gives the following chemical composition of Ovaltine: "Protein, 14.2 per cent.; Fat, 8.01 per cent.; Carbohydrates, 67.9 per cent.; Ash, 3.76 per cent.; Organic Phosphorus, . . . 1.18 per cent." According to the manufacturers this "new pick-up drink from Switzerland" originated in Berne over thirty years ago. Two heaping teaspoonfuls of Ovaltine would produce about 50 calories. A glass of milk has an energy value of 170 calories. The power of inducing sleep, which is stressed in the advertising, is similar to that of other warm drinks taken just before retiring. (Jour. A. M. A., June 16, 1928, p. 1968.)

BOOK REVIEWS

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month). Volume 8, number 4. (Philadelphia Number—August, 1928) Philadelphia and London: W. B. Saunders Company. Price, paper \$12.00.

This is the Philadelphia number containing contributions from the clinics in Philadelphia. There are interesting clinical demonstrations by Drs. John C. DaCosta, John B. Deaver and Charles H. Frazier, in addition to numerous other eminent Philadelphia surgeons. The book contains 285 pages with 91 illustrations.

OVERCOMING TUBERCULOSIS. By Gerald B. Webb, M.D., Consulting Physician, Cragmor, Glockner, Sunnystrest and the National Methodist Episcopal Sanatoria, etc., and Charles T. Ryder, M.D., Cragmor and Glockner Sanatoria, etc. Third edition revised. Paul B. Hoeber, Inc., New York. 1927. Price \$2.00.

This little book is the third edition of a former issue entitled "Recovery Record." It is a well prepared manual especially written for the tuberculous individual with the object of aiding him in overcoming the disease.

The authors discuss the common symptoms of tuberculosis in a rather popular way. It is interesting to note that they believe that pulmonary hemorrhage always indicates active tuberculosis even though temperature and pulse are normal thus disagreeing with others.

In the discussion of treatment they constantly emphasize complete bed rest as the primary requisite in the successful treatment of the disease.

About one-third of the space in this manual is taken up with the charts for temperature, pulse, and weight. Every chart is accompanied by a very well known epigram written by some famous writer.

This book should be of considerable aid to those suffering from tuberculosis. H. I. S.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Fully illustrated. Ninth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1928. Price \$6.00.

First published twenty years ago this book now comes to us in revised and amplified form. The chapter on parasitic protozoa has been entirely rewritten. New material has been added on the bacteriology of scarlet fever, erysipelas and rheumatic fever. Special sections, e. g., bacteriology of water, have been revised. Newer diseases like tularemia are given due consideration. The author has had the assistance of Professors Norton, Falk and Taliaferro in the preparation of this edition.

The book is an adequate working bacteriology. It is a good size (778 pages), is well printed and liberally illustrated. R. L. T.

BACTERIOLOGY. GENERAL, PATHOLOGICAL AND INTES-TINAL. By Arthur Isaac Kendall, B.S., Ph.D., Dr.P.H. Professor of Research Bacteriology in the Northwestern University Medical School, Chicago, Illinois. Third edition, thoroughly revised. Illustrated with 103 engravings and 8 plates. Philadelphia: Lea & Febiger. 1928. Price \$7.00.

This edition has been thoroughly revised so that it practically represents a new book and is up-to-date in every particular. All phases of the subject of bacteriology are thoroughly revised. This includes immunity, anaphylaxis (allergy), antigens and vaccine therapy.

The value of the Kahn test is noted, and the section in this subject is written by Dr. Reuben Kahn himself.

The work is divided into five sections which include the higher bacteria (yeasts, moulds, etc.), gastrointestinal bacteriology and applied bacteriology.

The book is well made, easy to read and handle, and the illustrations not over done. It is a good book to own and use. R. L. T.

BRONCHIAL ASTHMA. Its Diagnosis and Treatment. By Harry L. Alexander, A.B., M.D., Associate Professor of Medicine in the Washington University Medical School, St. Louis, etc. Illustrated. Philadelphia: Lea & Febiger. 1928. Price \$2.25.

This monograph is an admirable review of the literature pertaining to bronchial asthma. Commencing with the occurrence of the term "asthma" in the earliest medical literature, the author presents in a compact discussion all the accurate information available concerning the pathogenesis and pathological findings, the immunological and clinical aspects; the complications, prognosis and treatment of the disease. In addition, he has injected his own opinions based on laboratory and clinical experiences, which tend to elucidate controversial points. In this manner the startling hypothesis that asthma may actually spare the heart and that it is a misconception to regard heart failure as a common consequence of asthma is placed upon a tenable basis. An author's index of four pages attests the infinite amount of labor necessary for the consummation of this work.

It is a book well worth reading by both general practitioner and specialist for the author has succeeded in presenting a treatise that acquaints the profession in a clear and concise manner with the actual status of our knowledge of the pathology, immunological aspects, clinical aspects and treatment of bronchial asthma. C. H. E.

THE USE OF SYMPTOMS IN THE DIAGNOSIS OF DISEASE. By Hobart Amory Hare, B.Sc., M.D., LL.D., Professor of Therapeutics and Diagnosis in the Jefferson Medical College of Philadelphia, etc. Ninth edition, thoroughly revised. Illustrated with 124 engravings and 4 plates. Philadelphia: Lea & Febiger. 1928. Price \$5.50.

In this the ninth edition Dr. Hare spends his time in the preface in discussing the increasing importance of using one's senses in making the examination of a patient.

There is very little one can discuss in a ninth edition. The book is standard and has proven itself. The book is conservative therefore it is a safe book to put into the hands of the medical student.

G. H. H.

HYPOTENSION. By Alfred Friedlander, Professor of Medicine, College of Medicine, University of Cincinnati. The Williams and Wilkins Company, Baltimore. 1927. Price \$2.50.

In this work we now have a monograph on hypotension with a complete analysis of the literature on the subject and arranged in orderly fashion and clear cut. The author discusses normal blood pressures at different periods of life. The text covers everything that might cause hypotension, namely, shock, disease, mechanical factors, tissue extracts and drugs. His discussion on hypotension due to the malfunction of the factors which normally maintain blood pressure shows a clarity of cardiovascular physiology which is unsurpassed.

This book is a valuable asset to the library of the medical man as well as the surgeon. A. M. G.

NOUVEAU TRAITÉ DE MÉDECINE. Pathologie du Système nerveux Sémiologie générale. G. H. Roger, Fernand Vidal, P. J. Teissier. Secrétaire De La Rédaction: M. Garnier. Fascicule XVIII. Masson Et Cie, Editeurs: Libraires De L'Académie De Médecine. 120, Boulevard Saint-Germain, Paris (VI). 1928. Price 85 Fr.

This is one of a large number of volumes of a system of medicine published by Masson Et Cie, Paris, and making its appearance in 1928. Nearly all of the 22 scheduled tomes are now off the press.

In reality the book contains a large group of rather complete monographs on various neurological subjects. A comparatively small number of pages are devoted to psychiatric diseases. Such writers as Sicard, Thomas, Dejerine, Foix, Petren, Meige, Levy-Valensi and others alone assure an authoritative work.

Aphasia is discussed most comprehensively by Foix. This author having been a pupil of Pierre Marie for a number of years would naturally reflect the important opinions of his master relative to this much debated subject. The several different types are reviewed.

We could anticipate that the various reflexes would receive careful consideration in a large French work. In this we are not disappointed in the carefully written long chapter by Foix and Chav-nay. They have given particular attention to the reflexes of defense.

A careful conservative chapter on cerebrospinal fluid by Sicard is commended. All the methods for obtaining cerebrospinal fluid are given. The use of lipiodol receives proper attention which would be anticipated in any article by the inventor of this method.

The entire book is splendidly arranged and written. Most of it is rather easy French to read. The many chapters are well divided with clear headings.

SOLUBILITIES OF INORGANIC AND ORGANIC COMPOUNDS. A Compilation of Quantitative Solubility Data from the Periodical Literature. By Ather-ton Seidell, Ph.D., Hygienic Laboratory, U. S. Public Health Service, Washington, D. C. Supplement to the second edition containing data published during the years 1917-1926 inclusive. New York: D. Van Nostrand Company, Inc., 8 Warren Street. 1928. Price \$8.00.

This supplement is issued in lieu of a third edition. Compounds are listed alphabetically. The volume includes an author's index and a subject index. The latter includes all compounds included in the second edition as well as references to all corrections and additions contained in this compilation. H. D. H.

THE TREATMENT OF DIABETES MELLITUS. By Elliott P. Joslin, M.D. (Harvard), M.A. (Yale), Clinical Professor of Medicine, Harvard Medical School, etc. Fourth edition, enlarged, revised and rewritten. Illustrated. Philadelphia: Lea & Febiger. 1928. Price \$9.00.

One who wishes to keep pace with the latest therapy in diabetes should consult Joslin's fourth edition of "The Treatment of Diabetes Mellitus." This is the most comprehensive book on the subject to date. The author has incorporated everything new which is worth while in the treatment of this disease. He has considered synthalin, myrtillin and liver extract, but has omitted Von Noorden's newer preparation, glukhormont, which as yet has not met with the success in European clinics that Von Noorden claims for it.

The reviewer unhesitatingly recommends this excellent book. It contains everything of any consequence relative to the subject. A. C. C.

A POCKET MEDICAL DICTIONARY. Giving the Pronunciation and Definition of the Principal Words Used in Medicine and the Collateral Sciences, etc. By George M. Gould, A.M., M.D. Author of "The Illustrated Medical Dictionary," "The Practitioner's Dictionary," etc. Ninth edition, revised. Over 40,000 words. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia. Price \$2.00. With thumb index \$2.50.

This is a splendid handy volume for ready reference. It contains ready references on the pronunciation and spelling of medical terms. It contains all the new words used in medicine and collateral sciences, complete tables of the arteries, muscles, etc.

AN INTRODUCTION TO EXPERIMENTAL PHARMACOLOGY. By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica at Western Reserve University, Cleveland, Ohio, and Paul J. Hanzlik, M.D., Professor of Pharmacology at Stanford University, San Francisco. Illustrated. Philadelphia and London: W. B. Saunders Company. 1928. Cloth, \$4.25 net.

As the authors point out in the preface, this book is in a large measure an adaptation of Sollmann's Laboratory Guide. Designed primarily as a laboratory text, the new volume is nevertheless a valuable reference handbook as many of the newer contacts between physiology, physical chemistry and pharmacology are concisely presented in addition to the basic information on physiological action and dosage.

As an aid to teachers and others, outlines of the courses in pharmacology as given in the author's laboratories are appended. M. M. E.

ESSENTIALS OF PRESCRIPTION WRITING. By Cary Eggleston, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School, New York City. Fourth edition, revised. Philadelphia and London: W. B. Saunders Company. 1928. Price \$1.50.

This is the fourth edition of a handbook on prescription writing for use of students. It is concise, comprehensive and clearly written, giving the essential points in construction of the prescription, Latin phraseology and proper abbreviations. Weights and measures, solutions, mixtures, combinations and incompatible drugs are set forth in a clearly understandable manner.

One chapter is devoted to practice prescriptions which should be of value to the student. C. E. H.

DISEASES OF THE SOFT STRUCTURES OF THE TEETH AND THEIR TREATMENT. A Textbook for Students and Practitioners. By Hermann Prinz, A.M., D.D.S., M.D., D.Sc., Professor of Materia Medica and Therapeutics, The Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania, Philadelphia. Illustrated with 293 Engravings. Philadelphia: Lea & Febiger. 1928. Price \$5.50.

The author's reputation as a student, teacher and writer is a sufficient guarantee of the quality of the contents of this book. He has presented a very illuminating, concise—considering its scope—and interesting textbook, both for the student and the practitioner of dentistry. He has given detailed anatomy of the pulp, pericementum, and the parodontium of the teeth; a minute description of the various diseases that may affect them and intelligible methods of treatment. It is a valuable, readable and enlightening contribution to dental literature. W. A. C.

NOUVEAU TRAITÉ DE MÉDECINE. Publié sous la Direction de MM. G. H. Roger, Fernand Widai, P. S. Teissier. Fascicule XXI. Pathologie du Système Nerveux. Nerfs, Sympathique, Névroses. Un volume de 900 pages avec 415 figures et une planche double en noir, relié demi-toile. Masson Et Cie, Editeurs. Libraires De L'Académie De Médecine. 120, Boulevard Saint-Germain, Paris (VIe) 1927. Price 85 Fr.

Tinel writes on traumatic affections of the nerves, the symptomatology of diseases of the peripheral nerves and radicular syndromes, as well as polyneuritis and neuralgia. Chiray, Pavel, Parisot, Cornil, Heuyer and Marinesco make contributions to the knowledge of disturbances affecting the vegetative nervous system, vasomotor and trophic disturbances. These are complete and intensely interesting. There are chapters on the migraines, the neuroses and the dyskinesias, the latter including only epilepsy, and such neuroses as hysteria and neurasthenia, the traumatic neuroses, the tics, etc. One wonders why some of these conditions are included under such a title. The last section of the book discusses such conditions as Thomsen's disease, amaurotic family idiocy, Friedreich's disease, etc., which are discussed as familial diseases of the nervous system.

Most of the subjects are discussed very completely, though here and there one could wish that more space had been devoted to the consideration of some particular topic. This is a very valuable reference work for the general practitioner as well as for the specialist. B. L. E.

SKETCH OF THE HISTORY OF THE MAYO CLINIC AND THE MAYO FOUNDATION. Octavo volume of 185 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1926. Cloth, \$3.50 net.

This is a brief outline of the history of the Mayo Clinic and Mayo Foundation. It is intended merely to record in chronological order the principal facts concerning the two institutions and concerning other organizations working with them.

In the years previous to 1900 the Clinic was essentially a well organized surgical practice. In 1901 Dr. Henry S. Plummer and later others were added to the staff. Step by step more were taken into the organization, and various departments and laboratories were established, until a well developed clinic was formed.

In 1915 the Mayo Foundation for Medical Education and Research was organized and affiliated with the University of Minnesota. This organization has made it possible for many physicians to procure fellowships in all departments of medicine and surgery. Several hundred physicians practicing in the United States and many practicing in foreign countries have completed fellowships in the Mayo Clinic.

The development of the Mayo Clinic is a most interesting and remarkable achievement in medical history. Such an organization could be possible only through the leadership and ingenuity of men like Dr. Wm. J. Mayo and Dr. Chas. H. Mayo. F. K. H.

MALARIAL PSYCHOSES AND NEUROSES. With Chapters Medico-Legal, and on History, Race Degeneration, Alcohol, and Surgery in Relation to Malaria. By William K. Anderson, M.D., F.R.F.P.S. (Glas.) Visiting Physician to the Eastern District Hospital, Glasgow, Recognized Teacher of Clinical Medicine, Glasgow University, etc. Oxford University Press. American Branch, 35 W. 32d St., New York City. 1927. Price \$13.00.

This is the first attempt at a complete survey of the historical significance of malaria in race history, character degeneration and mental disease. A very exhaustive pathological study is also reported and an attempt is made to correlate the cerebral and glandular changes with the acute symptomatology and mental reactions. The book opens with a concise account of the life cycle of the parasite and a view of the subtlety and multiplicity of the clinical features due to the diffuse capillary irritation, vessel blockage, and scattered hemorrhage of every degree, all made more complex by the sporulation in the vessels of the internal organs and the periodicity of the sporulation.

The history of the disease is invariably associated with the mosquito and marshy land and seems to have existed in Egypt from the epoch of Minios (about 2100 B. C.) when Egypt was a vast marsh. Until 2000-1000 B. C. Greece was covered with forest and was a very healthy country, but with the Bronze Age and the cutting of the trees the resulting marsh lands became infected from Egypt. Beginning in 540 B. C., with the poet Theognis, the literature is filled with references to the periodic tertian and quartan fevers that made for the degradation of those who lived in low, moist, hot districts, and drank stagnant water. They suffered with enlarged spleen, were stunted, ill shaped, fleshy, dark, bilious, cowardly and adverse to hardship. Hippocrates (430 B. C.) gives prominence to the characteristics of an acute and apparently common disease, phrenitis, showing delirium and pain in the

hypochondrium. It was usually fatal on the third, fifth, seventh, and in any case not later than the eleventh day from the beginning of the attack. Galen says that this disease has generally a tertian periodicity. Galen also describes "melancholy" as beginning with indigestion, vomiting, foul breath, and characterized by sleeplessness, fear, and depression.

The insidious malarial process of devitalization is so slow and unobtrusive that for generations it may hardly attract attention until later writers record how fever stricken and desolate are certain places which once were opulent and flourishing. The disease is infrequently epidemic and tends to sap slowly the energy and vitality rather than to kill. The people keep the disease all through their lives and eke out a shortened existence in a debilitated condition. W. H. S. Jones maintains that malaria in the fourth century B. C. caused the Greeks to lose their brilliance and become dissatisfied and querulous. Patriotism declined, initiative vanished, vacillation, indecision, depression, cruelty, and weakness prevailed. He also attributes the Roman decline to the malaria of the Roman Campagna.

The pathology of malaria is discussed in some 63 pages and the findings illustrated with numerous microphotographs and colored drawings. The changes in the central nervous system are divided into (1) those produced by damage associated with blood vessel destruction and occlusion and (2) those associated with inflammatory reaction. The vessels are irregularly dilated, the capillaries proliferate, the endothelium degenerates or hypertrophies occlude the lumen, or the vessels are blocked by parasite laden red cells. The inflammatory changes in the nervous tissue are very variable in degree and distribution. The meningeal involvement may vary from simple hyperemia to purulent leptomeningitis with profuse hemorrhage. The brain cells degenerate, pigment is deposited and the neuroglia shows hypertrophic and degenerative changes.

The clinical pathology of the parasympathetic, the sympathetic, and the endocrine glands is discussed in a voluminous chapter. The author suggests that the first nervous evidence of malarial infection is medullary and takes the form of irritation of the vagus, the principal component of the parasympathetic system.

A discussion is given of the various pathological syndromes with case material in malarial affections of the peritoneum, colon, pancreas, skin, heart, kidneys, lungs, adrenals, thyroid, testicles, breasts, and pituitary. The syndromes are not peculiar to the malarial infection but are types of reactions seen when due to any of a number of causes.

The chapters treating of the mental changes and syndromes caused by the malarial infection are disappointing because of the unclear terminology used. The outstanding point is well illustrated, that is, the psychoses are like the physical syndromes, dependent upon the seat and the degree of pathological changes and stability of the patient's personality pattern.

The concluding chapters are devoted to a very detailed survey of the medico-legal aspects of this disease. Every sort of crime has been committed during the confusional episodes, the depressions, and the delusional states. In some countries the contraction of the disease places responsibility upon the employer.

One of the most striking points of this volume is the bibliography of some 1500 references. V. B. S.

TREATMENT OF NEVI

The treatment of nevi is discussed by Joseph V. Klander, Philadelphia (*Journal A. M. A.*, June 2, 1928). When nevi occur on the exposed parts of the body they frequently are of profound psychological significance to the patient. Here the aim in treatment is to obtain the best cosmetic results. In another type, appearing on any part of the cutaneous surface, malignant change is potential. In this type, cosmetic results become subservient to the vital need of completely destroying the lesion as a precursor of malignant disease. The high frequency current is more useful and more generally the method of choice in treatment than any other agent. This method gives such superior results that it can advantageously be employed in the treatment of all types of nevi (indeed, in any benign or malignant neoplasm). The only exception to this statement is in the treatment of certain angiomas in which the ultraviolet ray, the roentgen ray but more particularly radium, may be the methods of choice. The advantages of the high frequency current are as follows: It is a quick and economical method. Tissue destruction can be so controlled, through regulation of the proper current strength, that lesions varying in size from a pinhead to a considerable mass (similar to that shown in figures 1, 2 and 3) can be destroyed with a minimum degree of scar. Bleeding can be better controlled. The current renders the operative site aseptic. The tissue is not burned or charred, so that healing is expedited. The character of the scar is more likely to be soft and pliable. The disadvantages are that the method is painful, necessitating either local or general anesthesia. The patient is subjected to the inconvenience of having a healing area, which necessitates the use of a dressing. In destroying nevi not potentially malignant by a high frequency current, the aim is to destroy only the lesion, no more, no less, in order to obtain the best cosmetic result. Insufficient destruction necessitates a second operation, and unnecessary destruction of normal tissue produces excessive scar. The group of potentially malignant nevi include the pigmented nevi, predominantly the bluish black mole (melanotic nevus), all circumscribed bluish black nevi, and also circumscribed patches of pigmentation on area subject to traumatism. It is advisable to destroy this type of nevi as a routine, more particularly if the lesion is subjected to trauma. If ulceration has occurred or if there is evidence of enlargement, or increase of pigmentation, radical destruction or extirpation, including a liberal zone of surrounding healthy skin and underlying tissue, becomes imperative. In this event, biopsy should be made at the time of destruction and, if a malignant condition is present, massive roentgen-ray therapy should be administered over the operative area, the lymphatics draining the area, and the adjacent lymph nodes, combined with radical surgical extirpation of the lymphatics and lymph nodes. Destruction of these premalignant nevi should be thorough and complete, and performed at one operation, in which cosmetic results are secondary. Complete destruction can best be accomplished by electrodesiccation or electrocoagulation. To destroy these lesions incompletely by painting with caustics, by applying carbon dioxide snow, by electrolysis, by excision or by any treatment applied at intervals is a dangerous procedure. Such treatment constitutes irritations and makes mal-

ignant change potential. Klander advocates a method of choice in treatment of different types of nevi. The use of the roentgen ray and radium are not to be recommended in the treatment of nevus flammeus. This type of nevus is the only one in which the ultraviolet ray is of any value. It is applied by means of a water-cooled mercury quartz lamp with pressure. Refrigeration may be of value in treatment, particularly if the lesion is small. Scarring always results. If the lesion is large, treatment is prolonged, the scar is likely to be uneven, and the skin is unevenly colored. In the treatment of large lesions it is questionable whether refrigeration yields better cosmetic results than destruction by electrodesiccation. Both the roentgen ray and radium are of value in the treatment of nevus vasculous. A simpler, quicker and more economical method of treatment is destruction by electrodesiccation, which also yields good cosmetic results. Although the roentgen ray has been employed with good results in angioma cavernosus, radium in most instances is the treatment of choice. In selected cases, surgical procedures may give good results. The lesion may also be destroyed by electrocoagulation. The selection of this method would be particularly influenced by the location of the angioma. Electrolysis or electrodesiccation may be employed in nevus araneus (spider nevus). In nevus pilosus electrolysis would probably be the method of choice. Proper technic is required to avoid scarring. Electrodesiccation is a quick and effective method, but scarring would result. In nevus lipomatodes, the high frequency current offers more advantages than any other method. The employment of electrodesiccation, electrocoagulation or the endotherm knife would depend on the size of the lesion. Destruction of the lymphangioma circumscriptum is quickly and effectively accomplished by electrodesiccation.

THORACIC PAIN PERSISTING AFTER
CORONARY THROMBOSIS

Lowell B. Eckerson, George H. Roberts and Tasker Howard, New York (*Journal A. M. A.*, June 2, 1928), believe that it is not uncommon for patients who have suffered coronary thrombosis to be subject for varying periods to a type of thoracic pain which is indistinguishable clinically from the ordinary picture of angina pectoris and which is of somewhat different significance. Among twenty-three patients with coronary thrombosis, twelve survived the first attack. Among these twelve patients there were four who complained of this type of pain for various periods of time. They make a brief report of these cases. There seems to be some attempt at function in the affected area, which proves ineffective on further demand, a relative anoxemia developing as a result of increased activity, in the presence of a limited blood supply. An attack of coronary thrombosis can be ushered in by a paroxysm of dyspnea rather than by pain. It seems probable that (1) in the case of those who have pain only after the thrombosis, the pain is due to the infarct or its scar; (2) in those whose painful attacks cease after a thrombosis, the pain is dependent on a narrowed coronary vessel, with intermittent vessel spasm probably superadded, and (3) in those who have painful attacks both before and after coronary thrombosis, both of these factors are involved, or else more than one coronary branch is sufficiently affected to be the cause of painful attacks.

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ORIGINAL ARTICLES

SYMPOSIUM ON BACKACHE

BACK PAIN FROM THE ORTHOPEDIC POINT OF VIEW*

FRANK D. DICKSON, M.D.

KANSAS CITY, MO.

That pain in the back is a symptom of importance and interest is evidenced by the fact that your program committee has arranged a symposium on this subject. Considering the rather wide range of conditions which are active in the production of back pain, it would seem that this is a very excellent manner of approaching this complex subject as in only this way can a comprehensive discussion of these various conditions be had. I feel that practically no symptom we encounter for diagnosis should be approached with a more open mind than that of backache, since it may be due to one cause or to several causes, and a differential diagnosis can only be made by the most careful observation and the exercise of the best judgment in correlation of all observed facts. Why this is so becomes evident when we realize that so simple a symptom as back pain may be due to constitutional causes, intrathoracic and intra-abdominal lesions, pelvic conditions, diseases of the central nervous system and pathology involving the spine itself. It is with this last group, spine pathology, that what I have to present is concerned.

There are a number of ways in which the orthopedic side of back pain might be presented but it seems to me that in a symposium of this kind it is my part to place before you the subject of back pain in its most usual forms as we see it from day to day. In this discussion, then, I shall endeavor (1) to catalogue the common causes of back pain from the orthopedic point of view; (2) to briefly enumerate the symptoms met in these conditions; (3) to indicate important diagnostic facts which

should aid in arriving at a diagnosis. Necessarily in the brief period of time allowed it will be possible to consider this very large subject in but a brief and very general way.

In cataloging the common causes of back pain from the orthopedic point of view, I have selected seven conditions. These, in the experience of our clinic, are responsible for most of the back pain which we have been called upon to treat. These conditions are:

1. *Static or Postural Back Ache*.—This is due to poor posture as evidence by relaxed and pronated feet, knock-knee, hollow back, round shoulders, prominent abdomen and long, narrow chest. The individual with such an incorrect posture is constantly out of balance and maintains the upright position only by continuous muscular effort. The result is muscle and ligamentous strain and muscle tire, with the gradual development of a painful and aching back.

2. *Arthritis of the Spine*.—Arthritis involving the spine is of two types: (a) The Strumpbell-Marie type, "Poker Back," which causes a general ankylosis of the greater part of the spine including the small joints; (b) the osteo-arthritic type involving as a rule only segments of the spinal column, and characterized by lipping of the vertebrae and exostosis formation over the involved area. Both conditions result in spinal deformity, producing a general rounded kyphosis with round shoulders and general poor posture. The back pain which results is due in part to the arthritis of the spinal joints and in part to the muscle strain and tire, the result of the postural defects in the spine.

3. *Skeletal Abnormalities of the Spine*.—Under this heading is included a number of congenital abnormalities such as exist in 35 per cent. of all individuals, according to statistics. We will mention but three of these, the ones which we have most commonly encountered. They are, (a) partial or complete spondylolisthesis, in which we have a partial or complete displacement forward of the 5th lumbar vertebra on the sacrum with a greatly increased sacral inclination; (b) abnormalities of the 5th lumbar vertebra as deficient articular

*Read at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

processes at the lumbosacral articulation and partially sacralized 5th lumbar vertebra; (c) spina bifida occulta (failure of the neural ring to complete itself) of the 5th lumbar vertebra or 1st sacral segment. Such spinal abnormalities result in an architecturally weak spine which is often incapable of standing up under the strain of normal active life. In approximately 50 per cent. of the individuals in which spines of this kind exist, back pain of an acute or chronic type develops. This is particularly true when such weak backs are subjected to undue strain or trauma so common in laborious occupations.

The pathology in such spines is a more or less definite displacement or locking, usually at the lumbosacral junction, a region subjected to great strain at all times. Given such a displacement or locking, we have low back pain developing, the result of the reflex protective muscle spasm. These displacements frequently also produce impingement upon the spinal nerves as they pass through the spinal foramina and cause pain referred along the peripheral nerves. The referred pain in this condition is along the course of the sciatic nerve and so often results in the incorrect diagnosis of sciatica or sciatic rheumatism.

4. *Compression Fractures of the Spine.*—Such fractures are as a rule produced by forced flexion of the spine beyond its normal range of motion, usually with the pelvis fixed as in a stooping position. In such a fracture, the compression of the bodies of the vertebrae results in the production of one or more wedge-shaped vertebrae. This deformity of the vertebrae causes an acute knuckling or kyphosis of the spine. Here again we have back pain from two sources, pain due to muscle strain and tire, the result of the deformity and the consequent postural defects; and pain due to impingement upon the spinal nerves and referred out from the back along the course of these nerves.

5. *Diseases of the Spine.*—Among the most common diseases of the spine are tuberculosis or Potts' disease, malignancy including sarcoma and carcinoma, and Charcot spine. Such diseases cause destruction of the vertebral bodies and spinal deformity results. Consequently, back pain occurs as a result of the destructive process itself, as a result of muscle spasm and strain and tire, due to the deformity, and as a result of impingement on the spinal nerves in the form of referred pain.

6. *Scoliosis or Lateral Curvature.*—In this condition due to the extreme spinal deformity, we have back pain due to muscle spasm and tire, and referred pain as a result of impingement on the spinal nerves, the latter less important than the former.

7. *Metabolic, Toxic or Infectious Affections of the Muscles, Called Lumbago or Myositis.*—These names are too often offered as a diagnosis when the cause of the symptoms is mechanical. We believe, however, that these conditions may exist alone or more frequently aggravate and accentuate mechanical defects already present and induce very acute and painful symptoms, fortunately of short duration.

These, we believe, comprise the most common causes of back pain which the orthopedist is called upon to treat.

In enumerating the symptoms commonly associated with the conditions mentioned above, we shall consider only the most usual and therefore the most important. Briefly these are:

1. *Posture of the Individual.*—The individual with a lesion of the spinal column which is causing pain, as a rule shows evidence of such a lesion in the posture or contour of the back. We find the general rounded kyphosis with flat lumbar spine characteristic of arthritis of the spine; the sharp, angular kyphosis indicative of destructive processes, as tuberculosis and crush fractures; we have the lateral deviation due to scoliosis or to muscle spasm, the so-called sciatic scoliosis.

2. *Pain.*—Such pain is of two kinds, the so-called local pain confined to the back, and referred pain felt in areas remote from the back itself. Local pain in the back is due to muscle and ligamentous strain and tire, the result of faulty attitude or to disease of the vertebral bodies and spinal joints, and may affect any section of the back or involve its entire length. Referred pain is due to pressure on or impingement of the spinal nerves as they pass through the vertebral foramina. Its location or distribution depends upon the area of the spine involved. Such pain may be felt in the shoulder, neck and down the arms if the cervical region is affected. Involvement of the thoracic region causes intercostal neuralgia and abdominal pain. When the lumbar region is affected we get sciatic irritation and distribution of pain along the course of the sciatic nerve. As a rule both local and referred pain are aggravated by activity and movement.

3. *Muscle Spasm.*—Spasm involving the spinal muscles manifests itself by tensing of the muscle which stand out as hard masses to the examining hand. The muscle spasm may be unilateral or bilateral and may affect only one region in the back, or it may involve the entire length of the spinal muscles.

4. *Limitation of Spinal Column Movements.*—Limitation of motion is usually present in all directions; that is, in forward bending, lateral bending and extension. The limitation of mo-

tion may be slight and affect but one area of the spine, or it may include the entire spinal column. As a rule, any attempt to force movement beyond the set limit causes pain and muscle spasm.

5. *Tenderness Over the Spine.*—Such tenderness is elicited by palpation and percussion over the back. Its distribution depends upon the degree of involvement of the spine and the amount of muscle spasm present.

These comprise the most common symptoms of back pain of spinal origin. Each has many interesting variations which could be discussed with profit but time will not permit.

The important diagnostic points which should be useful in attempting to arrive at a decision as to whether the origin of any given back pain lies in the spinal column seem to us to be:

1. *History of the Onset of the Pain.*—The taking of a careful history is of great importance in determining the cause of back pain. Its mode of onset, whether trauma played any part, its duration, whether it is constant or intermittent; in fact, all details of its course will be enlightening in arriving at a diagnosis.

2. *Deformity.*—Given a demonstrable deformity, such as any of those mentioned above, it is logical to expect back pain. Certainly the burden of proof that the cause lies outside of the spinal column is on the other side under such conditions.

3. *Limitation of Motion.*—This conclusively points toward the existence of definite pathology in the spinal column.

4. *Muscle Spasm.*—This has about the same relative importance as limitation of motion.

5. *Pain.*—Both local and referred pain afford strong presumptive evidence as to the location of the cause of back pain in the spine. Both types of pain require careful analysis but more particularly referred pain. Referred pain can frequently be so characteristic of involvement of an underlying viscus as at times to render the diagnosis of its origin being due to spinal nerve impingement a matter of considerable difficulty. I could cite you many instances in which, due to the remote distribution of referred pain, a back lesion, which was the cause of the pain complained of, was completely overlooked. On the other hand, it must be admitted that there have been many cases in which referred pain was considered to be due to spinal column pathology in which the real cause lay in a viscus remote from and unconnected with the spine. On the whole, I think it may be safely stated that the presence of peripheral nerve pain in the extremities, chest and abdomen demands a very careful examination of the spinal column before a diagnosis can be safely made.

6. *Finally We Have a Very Important Diagnostic Aid.*—The X-ray. In no case in which back pain is a symptom should a diagnosis be attempted without careful and satisfactory X-rays of the spine. These should be taken in the anterior, the posterior and the lateral planes, and the plates interpreted by one whose experience entitles him to speak authoritatively. Unfortunately, it requires quite a large experience correctly to interpret many of the pathological conditions found in the spinal column so that too often the important departures from the normal are overlooked. Certain it is, however, that if adequate X-rays are taken and carefully studied, the percentage of mistakes will be greatly reduced.

Now, gentlemen, you have had placed before you an outline, brief and not wholly comprehensive, of the orthopedic conditions you may meet in individuals presenting themselves to you for relief of backache. Many of these cases you can relieve by simple and appropriate methods. Others will require more extended observation and treatment. None can be dismissed lightly or ignored. In closing, then, I should like to urge that whenever back pain is a symptom, whether it be in the cervical, thoracic or lumbar region, and in all cases of peripheral nerve pain which might originate in the spinal column, a careful examination of the spine be made. Such an examination includes stripping your patient and making a careful inspection for deformity and limitation of motion and muscle spasm. It further includes the taking of complete X-rays in two planes to determine whether destructive processes, proliferative processes or congenital defects are present. In this way, the presence or absence of pathology in the spine can be determined, and a decision for or against the spinal column as the source of the pain be arrived at. In this way, and only this way, can an exact diagnosis be made and embarrassing and at times tragic mistakes in interpreting the symptom of back pain be avoided.

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RELATIONSHIP OF THE GENITO-URINARY ORGANS TO BACKACHE*

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From the dawn of mankind's thinking, the backbone has symbolized character and throughout history the man of courage and stability is represented as one of backbone,

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and the weakling one who lacks it. Man's passion and anger are often represented by the term "getting the back up."

The back may be likened to a tree, it being the trunk from which the branches spring and from which their support is dependent.

There is no segment of the human body which tolerates the imposition of the members to such astounding proportions as the back. Whether the insult be the result of a general toxemia, such as influenza, springs from tonsillitis or a bad tooth, emanates from the distal extremities, such as a fallen arch or dissymmetry of position, receives its impressions from pelvic disturbances in the male or female, or is primarily a condition of the bone itself, this part of the human economy issues forth many signals of distress. But, unfortunately, they are often vague and bewildering and fail to represent the true source of trouble.

Chronic backache, which is one of the most frequent and puzzling problems with which the profession has to contend, requires the most skilful application of mental acumen and the cooperation and association of representatives of many branches of medical science. With this cooperation and reference the majority of the sources of backache will be determined. However, there are a few instances in which, after the most careful investigation, the cause remains undetermined, and there is probably no type of individual who trips into the hands of the various cults more than these sufferers.

Backache has as many names as causes. The common terms are: Misery in the back, down in the back, weak back, back strain, lumbago, kidney trouble and sacro-iliac, all loosely used and many vaguely treated.

The complaint, sacro-iliac, seems to be enjoying social popularity at the present time; indeed, it is the vogue. The sufferers tolerate the distress amiably and feel recompensed by being in the social epidemic. Many have not sought medical aid the diagnosis being self-imposed.

My part in this symposium will be to emphasize the important bearing which the genito-urinary organs play in the production of this malady. Oftentimes lesions of these structures may be the sole cause of backache but very frequently they are associated with other conditions, either general or special, and require thorough differential study.

The types of backache which the urologist encounters may be divided into (1)

acute and chronic, (2) high and low, (3) unilateral or general. The most frequent of these is the low general chronic one.

Many patients who consult the urologist complain of kidney trouble because of backache. The idea has been current that low backache represents "kidney trouble." The kidneys, of course, seldom contribute to a chronic low backache. With such a backache there frequently occurs urinary distress and, while the condition is not the result of kidney disease, it very frequently originates in the pelvic structures, particularly the prostate and seminal vesicles.

KIDNEYS

Nephralgia, either unilateral or bilateral, occasionally occurs without demonstrable mechanical or inflammatory changes. Increased capsular pressure from nephritis or from congestion causes high backaches which subside in some instances with the abatement of the disease following the administration of proper medical regime. Others have required certain surgical manipulations, such as decapsulation and drainage, for their correction. Years ago Geraghty directed attention to the importance of this subject.

As a rule, backache is produced by a kidney condition only when drainage is interfered with, such as by blocking from stone, infection or stricture, either intrinsic or extrinsic, from renal enlargement, congenital or neoplastic, and from malposition.

The most frequent causes of acute unilateral high backache of kidney origin are stone and infection. The symptoms of these are classical and accurate investigation will reveal their true nature. Urinary examination with the detection of blood cells, or pus and bacteria, X-ray examination giving its important information, and finally the ureter catheter, will solve the trouble.

I cannot resist urging, at this point, the employment of the ureter catheter in the acute renal retentions from infection. The acutely infected kidney commonly designated as pyelitis, but which is almost invariably a pyelonephritis, with retention from edema at the ureteropelvic juncture, is too often allowed to remain under medical care by the internal administration of alkalies and the ingestion of copious amounts of water. The retained septic products are thus forced into the substance of the kidney, certainly jeopardizing the integrity of that organ until such time as nature sees fit to issue a spontaneous evacuation. This, I feel, is decidedly wrong.

If there is a place in which the ureter catheter has its most appropriate mission it is in this circumstance. None of us would think of allowing a boil which had undergone complete suppuration to remain without evacuation of its contents, and yet these septic products are allowed to exert their deleterious influences upon such a vital organ when they can be immediately evacuated and the organ spared from such effects. In other words, acute pyelonephritis in adults or children should be promptly relieved by the ureter catheter. I am sure that the late effects upon the renal substance, interference with functional capacity, as well as predisposition to other conditions such as stone and stricture, would be far less frequent under this regime.

The chronic high backache, the result of a silent, insidious hydronephrosis from renal or ureteral block with negative evidences of disease by the X-ray and urinary findings, is frequently deceptive and may exist for months or years without recognition. It is only translated by thorough scientific urological study, ureter catheter and radiography with pyelography.

On numerous occasions I have seen an unexplained chronic high backache determined by finding retention in the renal pelvis resulting from congenital or acquired stricture of the ureter, aberrant vessel, or pressure from neighboring lesions without gross evidences of tumor mass and with negative radiological and urinary findings. In all chronic high backaches, particularly if unilateral, hydronephrosis must be borne in mind. Very frequently such a condition is bilateral and a bilateral high backache may exist from the same origin.

Other rare kidney conditions productive of backache are the congenital lesions, such as polycystic, horseshoe, or ectopic kidney. Such backaches have a tendency to be more central or bilateral and have an equal tendency to fluctuate involving first one side and then the other. Two recent cases of horseshoe kidney, both with chronic disease—a tumor in one instance and a stone in the other—showed this symptom.

In renal tumors the backache may result from pressure of the growth or from metastatic involvement of the spine. Several years ago a patient, who presented a carcinoma in one-half of a horseshoe kidney, which I resected with an immediate good result, appeared later with an agonizing backache, the result of bone metastasis.

Such involvements are not rare in kidney tumors generally.

Backache from the ectopic kidney is more likely than any other type of kidney to be confused with some pelvic, sacro-iliac or sacrolumbar disturbance. On account of its low position, usually over the sacro-iliac synchondrosis, back symptoms in this neighborhood are more likely to occur. I have observed two cases of acute backache over the sacro-iliac region due to stone in the pelvic ureter. In both instances the acute colic was referred entirely to this neighborhood with no reflection elsewhere.

While the kidneys seldom contribute to the low backache, the type which I take it we are here particularly to discuss, the lower urinary tract and the genital organs assume a paramount position in the production of this condition.

PROSTATE

Diseases of the prostate and seminal vesicles are probably in the background of as many low backaches as any other pathological condition. They may contribute to this complaint in a general and in a special way. In a general way by toxemia and metastasis, and in a special way by pressure or adhesions with reflections.

The low backache occurring most pronouncedly in the early morning, in many instances awakening patients and making motion very uncomfortable but improving on motion and gradually abating as the day progresses, is the typical backache of prostate and seminal vesicle origin. Since the prostate is not a urinary organ, but offers itself in urinary symptomatology only through obstruction or urethral irritation, the majority of the chronic infections of this gland and of the vesicles produce no urinary symptoms which would suggest their disease, and hence reflected pain, such as lumbago, is not suspected as originating from these structures. Indeed, the reflected pains and the pressure phenomena of prostatic disease, particularly in younger individuals, are the most common symptoms of disease. In two patients with sclerotic prostates with vesical neck contracture, a persistent backache was cured on removing the obstruction by means of my cautery punch operation.

Many years ago in examining the cases of backache in the different departments of the clinic, it was found that 80 per cent. of the low chronic backaches in men originated from the prostate and seminal vesicles.

Hence, the importance of suspecting disease of these structures in many unexplained backaches was impressed upon me. Often the origin is in the prostate and vesicles, some due to an association of disease in the gland through pressure and adhesions plus changes in the bone or joint surfaces due to extension of either inflammation or tumor growth. In many instances the prostate and vesicles are swollen and produce symptoms through pressure. These are patients who receive prompt and immediate relief by massage and emptying of the ducts. The ones with marked sclerosis and adhesions are much more prone to resist therapy and require protracted treatment. Quite a definite percentage of long continued prostatic and vesical infections are associated with lumbosacral arthritis and need not only careful urological therapy but also proper orthopedic attention.

In women the urethra and the trigone contribute, alone and in association with disease of the pelvic organs, to the production of this complaint. In many instances urinary symptoms may be presented, such as frequency, urgency and pain, along with the backache.

Strictures of the urethra are not at all uncommon and dilatations and corrections will occasionally produce a pleasing result. In every instance, however, a thorough pelvic examination should be made and the correlation of the gynecologist with the urologist cannot be too strongly urged.

Cystoceles are frequently found but alone usually do not offer the explanation for the trouble as they are so frequently associated with relaxation of the pelvic viscera and require gynecological correction.

CARCINOMA OF THE PROSTATE

Carcinoma of the prostate is a frequent source of backache, either from pressure upon its capsule or from implication of the pelvic nerves by periprostatic inflammatory reaction or carcinomatous infiltration. Frequently the severe backache from carcinoma is the result of bone metastasis. Hence, all carcinoma of the prostate should have thorough radiological study.

The backache resulting from carcinomatous changes in the gland are particularly prone to have associated pain along the sciatic and in the hip joint. Usually urinary symptoms will appear and attract attention but in some instances the backache or the sciatica is the original and predominant symptom. Hence, severe backache in a man beyond middle life, regardless of urinary

symptoms, should call for a rectal examination and if hardness, either localized or general, is elicited carcinoma is almost sure to exist. I shall not take your time in outlining the therapeutic methods for such conditions as they are entirely familiar to you. It is however apparent that an examination of the prostate and vesicles not only by palpation but by expression of secretion and thorough examination of the contents, is important in any case of low backache. The other urinary and genital organs may be expected to contribute far less frequently than the internal genitalia just described.

Occasionally a bladder tumor, by infiltration of the ureteral orifice, one or both, may cause a unilateral or bilateral backache due to renal retention. Such tumors by extension of the growth outside of the bladder with involvement of the pelvic nerves, or by bone metastasis may also produce back pains. These symptoms appear late and are usually preceded by the cardinal emblem of bladder tumor, namely, hemorrhage. But in present day urological diagnosis and the acquaintance of the profession with the importance of this symptom, bleeding, such lesions are seldom allowed to advance to such an extent without investigation.

The scrotal contents are occasionally factors in the creation of backache, yet they are far less important than was formerly supposed since many of the backaches in association with scrotal or cord pains are the result of reflections from the vesicles and prostates rather than from the scrotal contents themselves. However, tumors or hydroceles, because of their size, frequently by traction produce distressing symptoms in the back.

Chronic inflammatory conditions of the epididymis, tuberculous and nontuberculous seldom contribute to such conditions.

In closing permit me to suggest that the urogenital system contributes quite frequently to backache. On account of the insidious nature of many of its disease processes, there may be no specific symptoms; but such diseases should always be suspected either as the sole cause of trouble or as contributing agents. Neither a normal urine nor a negative history of urinary symptoms can eliminate the genito-urinary apppareil as the prompter of such complaints, but a thorough urological investigation should be undertaken in any unexplained chronic backache.

BACKACHE FROM THE GYNECOLOGIC STANDPOINT*

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Probably the most helpful way to consider the subject of backache is to state in detail the plan of differentiating between gynecologic and non-gynecologic backache. Patients are frequently sent to my office to determine whether or not the troublesome backache is of gynecologic origin. In such cases I proceed on the following practical plan.

HISTORY

In the history the following items are specially considered:

1. *Origin*.—What caused the backache as far as the patient can tell? Did it appear in connection with some disturbance of the genital tract, such as childbirth, miscarriage, infection, operation, or was it initiated by an attack of rheumatism, tonsillitis or other acute general disturbance, or by a fall or by the strain of heavy lifting?

2. *Associated Symptoms*.—Has the backache been accompanied with other symptoms of genital disease, such as pain in the lower abdomen, bearing-down distress, uterine bleeding or vaginal discharge?

3. *Progress*.—Has the backache been continuous and uniform, or has it been increasing in severity, or does it appear only occasionally and if so what seems to bring it on? Are its recurrences or exacerbations coincident with some phase of the menstrual cycle?

4. *Effect of Previous Treatment*.—Has the backache improved at any time under gynecologic treatment and if not, what measures have seemed to give relief?

EXAMINATION

In the examination particular attention is given to the following points:

1. *Localization of the Backache*.—The exact localization of the backache both vertically and horizontally is important. After the abdominal examination, as the patient lies on her back, the examining hand is slipped under the back and the different areas are palpated, the patient in the meantime being questioned carefully and pinned down to definite answers on two items of information, namely, first, the exact area where the ache in the back is or has been, and, second, any points that are tender on palpation at present or at which definite tenderness on pressure has been noticed at any time. If found advisable for accurate localization or for special investigation of any abnormality, the patient is directed to the sitting position and

the back carefully inspected as well as palpated.

In regard to the location of backache the following vertical localizations are to be considered.

a. *Sacral Region*.—Backache in the sacral area may be a diffuse aching extending all the way across the back at this level and without any definite tender spots. This is the type of backache most likely to be caused by some intrapelvic disease. On the other hand, sacral backache may be caused by disease of the sacro-iliac joints. In such a case the sacro-iliac joint on one or both sides is distinctly tender on palpation, and often there is irregularity of the joints due to loosening or arthritis. Also, there is the aggravation of the pain by movement, which is so characteristic of sacro-iliac joint trouble. In severe cases of sacro-iliac arthritis, the aching pain may spread over the whole sacrum and even higher up the back, but the characteristic sacro-iliac joint tenderness identifies the trouble.

b. *Coccygeal Region*.—As the sacral area is being palpated and the patient is questioned as to the exact site of the pain, she may state that it is still lower, and further questioning elicits the information that it is at the "very end of the spine." Later, after the vaginal examination, rectal palpation is made and the painful area is accurately localized about the coccyx or the sacrococcygeal joint.

c. *Lumbosacral Joint*.—This lumbosacral articulation is the master pivot which sustains the upper half of the body. It is prone to become weakened and painful when the patient's nutrition is below par, especially if extra strain is placed upon the joint by faulty posture. This type of backache is present principally at a time when the joint is being subjected to strain and is relieved when the patient is recumbent. The diagnosis may be confirmed by orthopedic tests showing faulty posture and by relief secured from orthopedic treatment.

d. *Midlumbar Region*.—There are two types of backache occurring at this level. One type is due to arthritis or other disease of the spine, in which case the aching is largely in the center, and there may be tenderness along the spine. The other type of pain in the midlumbar region is due to disturbance in the great muscle masses. In such a case the discomfort is lateral, on one or both sides, and there is often tenderness on palpation of the muscles. In some of these cases the tenderness is clearly in the muscles, while in other cases it seems to be principally in the nerves of the vicinity.

e. *Upper Lumbar Region*.—At this level aching may be due to spinal disease, with a central tender spot over the affected vertebra. On the other hand, the trouble may be lateral

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in which case we are confronted with the problem of differentiating between disturbance in the muscles and nerves of this region and disturbance in the kidney. In this differentiation, accurate localization of the tenderness is very helpful; that due to muscles and nerves being rather widespread over these structures, while that due to pyelitis or other kidney trouble is somewhat farther out and definitely localized to the kidney region in the costolumbar angle. Disease in the genital tract is not likely to cause backache localized this far up, though in widespread intrapelvic disease the backache may spread from the sacral region up to the lumbosacral and the midlumbar regions and at times even to the upper lumbar. Of course, in neurotic individuals backache originating anywhere may spread up the spine even to the neck and head.

2. *Intrapelvic Examination.*—Intrapelvic examination by the various methods will show whether or not there is a lesion of the genital organs or of the rectum or bladder. If a lesion is found, then comes the question whether or not it is a factor in the backache. We must keep in mind the fact that a pelvic lesion and backache are not necessarily cause and effect. There may be no causal relationship between the two. In this connection there are three questions to be answered: Is the pelvic lesion one that is likely to give rise to backache? Is the backache a type that is likely to be caused by the pelvic lesion? Is there any other probable cause for the backache? Carefully considered answers to these three questions will usually indicate clearly whether or not this backache is of intrapelvic origin.

The history and the examination of the back already detailed will usually show if there is any extrapelvic cause for the backache. The type of backache caused by gynecologic lesions is a typically diffuse aching across the sacral area. If severe or prolonged it is likely to overflow upward into the lumbar region or more rarely downward into the coccygeal region.

INTRAPELVIC CONDITIONS THAT CAUSE BACKACHE

What are the intrapelvic conditions likely to cause backache? In general, backache usually accompanies conditions that cause (a) congestion in the pelvis or (b) pressure or (c) pulling.

a. *Congestion.*—Inflammatory lesions constitute the largest item in this class. Acute or subacute inflammation of any internal part of the genital tract is very likely to cause backache. The one exception is inflammation of the uterine cervix, which is quite insensitive. However, inflammation in the cervix frequently

extends quickly to the surrounding connective tissues (parametrium). This parametritis often causes backache, especially when the inflammation extends backward in the uterosacral ligaments, giving rise to that very troublesome affection designated posterior parametritis.

There are also certain functional and temporary causes of congestion without any lesion. Long standing at tasks, heavy work, onset of menstruation, coitus—all these are causes of pelvic congestion more or less temporary, which may be accompanied with corresponding backache.

b. *Pressure.*—Tumors, old inflammatory exudates, uterine displacements, especially an enlarging retrodisplaced uterus, are conditions causing pressure on the intrapelvic structures and likely to be accompanied with sacral backache. Uterine retrodisplacement, while causing backache in some cases does not cause it as frequently as generally supposed. We all see patients with uterine retrodisplacement that have no backache whatever. Many patients seem just as comfortable with the uterus back as they could be with it forward. Hence it is clear that when backache is associated with uterine retrodisplacement it is not due simply to the backward position of the corpus uteri but to some complication or associated factor that causes intrapelvic congestion or pressure or pulling.

c. *Pulling.*—Undue tension on structures that are not intended for tension may cause much dragging distress in the pelvis and accompanying sacral backache. This is seen especially in relaxed pelvic floor and in uterine prolapse. Backache from these causes is usually relieved by lying down, and is brought on again by activity in the upright posture.

In addition to genital lesions as a cause of sacral backache, rectal lesions also must be kept in mind. When a patient comes with backache of a type indicating intrapelvic origin, if no adequate causative lesion is found in the genital tract, rectal examination is to be made. A rectal examination also often gives additional information in regard to genital lesions and should be employed in practically every gynecologic patient. Lesions of the bladder and ureters also may give rise to pelvic congestion and sacral backache and hence investigation in that direction is required in obscure or persistent backache and pelvic distress. Many a patient with troublesome sacral backache has received uterine or ovarian treatment for years unsuccessfully because the causative lesion was not in the genital tract but in the rectum or bladder or ureters.

X-RAY EXAMINATION OF THE LUMBOSACRAL REGION WITH REFERENCE TO LOW BACK PAIN*

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Backache is one of the commonest complaints. Etiologically considered, it is one of the most difficult to deal with. Nine per cent. of the patients visiting one of the largest clinics in Missouri name this symptom as their chief complaint.¹ With the dawn of the X-ray a new group of etiological factors was revealed. That the modern roentgen ray diagnosis has thrown considerable light on the backache due to abnormalities of the lumbosacral region is well known. There are so many and such varied anomalies coupled with chronological changes in this part of the human anatomy that it behooves the physician to be constantly on guard in the statement that the roentgenogram reveals the cause of lower back pain, "which may be hidden in the condition of a saint and the complexion of the devil."

This region is also the concealed gold mine of the malingerer. He states his back is injured; the doctor suspects it; the lawyer hopes it; the court views it with an open mind, the jury many times with prejudice where corporations are involved. One author² mentions more causes for low back pain than the proverbial fifty-seven varieties. It is, therefore, the first duty of the roentgenologist³ to inform himself on the normal X-ray findings thus giving him a basis for an opinion on any deviation or abnormality. The lumbosacral region offers no exception to this rule. Therefore, we should determine as nearly as possible just what are the normal vertebrae, sacrum, and its articulating bones forming the pelvic girdle. While a normal vertebra may be difficult to define, I feel that for diagnostic purposes we can establish a definite opinion upon which to work.

Generally speaking, in examining patients suffering from backache it is a good policy to bear in mind the following three points as mentioned by Kidner.⁴ First, get rid of the old idea of the inherent stability and strength of the lower lumbar spine and pelvic girdle and look at it as a particularly unstable and complicated mechanism with many and rather weak points. Second, that anatomy and function of the lumbosacro-iliac apparatus is by virtue of its connection and location especially liable to be secondarily affected by alterations of structures surrounding and supporting it and supported

by it, with the result of mechanical inflammatory and productive changes. Third, that many cases are associated with neurasthenia and psychasthenia, which are liable to exaggerate or misrepresent local symptoms.

O'Reilly⁵ emphasizes the importance in the relation between congenital malformation of the lumbosacral region and industrial accidents, injury, strain and backache. Approximately 50 per cent. of persons showing abnormalities of this region have not and probably never will have backache symptoms if there is no additional strain or trauma, but observation seems to point to the fact that they have a potentially weak spine. Richard⁶ states that 90 per cent. of patients complaining of low back pain will show some anomaly of this region, and I predict that sooner or later corporations employing large numbers of men will find it good business economy to have a roentgen ray examination of the spine of all employees, since such a high percentage of cases showing anomalies are found listed as claiming compensation.

Baetjer and Waters⁷ report that in 1000 cases of examination in the lumbosacral region there were 15 per cent. of congenital nonunion of the sacral laminae. The writer in looking over 400 roentgenograms found that 28 per cent. showed some type of anomaly in the lumbosacral region. Willis⁸ states that it should not be difficult to differentiate the backache due to anomalies from those of reflex inflammatory and neoplastic origin. The lack of definite local symptoms of the reflex type and the presence of such evidence in the inflammatory and neoplastic types should be sufficiently ready determination. We must not be too willing to ascribe clinical symptoms to the presence of a congenital anomaly simply because it exists. Such symptoms may be the result of a coexistent condition. We also know that many defects often exist without producing clinical signs. Skinner²³ calls attention to the fact that so-called hypertrophic changes are not necessarily due to infections, nor do they always produce symptoms. I would like to impress upon the novice in X-ray interpretation that unless he be familiar with the anomalies and chronological changes of the lumbosacral region, he will often err in his diagnosis and may be humiliated in court.

The technic for X-ray examination of the lumbosacral region in a general way applies to any part of the body. Accuracy in diagnosis implies correct technic and interpretation. Sharpness of definition is therefore very important. Two other points of importance are the proximity of the part examined to the film and the incidence of the ray to the object

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examined. One of the most common faults in technic is the disregard of distortion. Since the normal lumbar curve is concave to the film when the patient is lying prone on back there is a tendency to distortion. It is, therefore, necessary to eliminate this curve as far as possible by elevating and flexing the knees and elevating the shoulders to bring the lumbar region in close proximity to the film. The remaining angulation of the lumbar region again makes it advantageous to tilt the tube 5 to 10 degrees toward the head. It is all too common a practice to include too many vertebrae in one exposure. It is good technic to use 10 by 12 films, trying not to show more than three vertebrae at one time, centering directly over the one desired. The making of stereoscopic films including a good lateral view of this region need scarcely be mentioned, yet the lateral view, which is of utmost importance, is frequently omitted.

Under the head of anomalies, those of chief importance in the lumbosacral region are derived from the tendency to weaken the mechanical construction of the part, thus predisposing to injury and delay, or even preventing recovery after injury has occurred. The



Fig. 1. Spina bifida involving all lumbar vertebrae. May appear in any part of the spine but more common in lumbar region. Usually the bodies of only one or two vertebrae are involved and seldom accompanied by symptoms. Individuals with this congenital defect when subjected to trauma in this region are as a rule slower in recovery than the normal.

first and most important group of these anomalies includes spina bifida and defects of the last presacral vertebra. Spina bifida may be found in any region of the spine but appears to be more common in the lumbar region.

(Fig. 1.) The bodies of the vertebrae may be flattened, wedge-shaped, split, or fused. Usually in a true spina bifida a cleft appears and there are always changes in the laminae and spinous process. Fig. 2 shows the most com-



Fig. 2. Spina bifida occulta, most common in the fifth lumbar vertebra. Described as split and separate neural arches. Is sometimes wrongly interpreted as due to injury. Condition is found in approximately five per cent. of all individuals.

mon defect found in the fifth lumbar vertebra. These are described as split and separate neural arches and consist of one or more interruptions in the continuity of the arch.

Willis⁸ calls attention to the seven general types of defect in the make-up of the fifth lumbar vertebra. He found 1.2 per cent. in 748 spines examined. Magnusen⁶ in looking over 100 roentgenograms of individuals with lower back pain found it eight times more frequent. In addition, this group includes variation in size and form of the transverse processes of the last lumbar segment. Fig. 2 shows a central and bilateral laminar defect of the fifth lumbar which is quite common and should not be confused with fracture. We are here reminded of a statement that a damage suit lawyer once made to his young assistant with reference to injury in this region, viz., "When in doubt play the fifth lumbar vertebra." One other anomaly occasionally found in this region is due to a failure of the ossific centers to unite the transverse process to one of the lumbar vertebrae. This developmental defect may be diagnosed as fracture or mistaken for stone formation in the ureter.

Another very frequent anomaly is the sacralization of the fifth transverse process, either

unilateral or bilateral. The term sacralization should be restricted to designate only those cases where the transverse process of the last lumbar vertebra takes on definite sacral characteristics. Simple increase in length, bulk, and the approximation of the shadows of the transverse process do not constitute sacralization. However, such conditions may easily mislead the uninitiated in X-ray interpretation. Albee¹⁷ cites a case where a patient traveled half way across the continent for an operation when a roentgenologist had given a definite diagnosis of sacralization founded on faulty technic. A good stereoscopic film or a definite tube tilt is absolutely necessary in making this examination.



Fig. 3. Unilateral sacralization of last lumbar vertebra. Often bilateral and many times accounts for low back pain. Symptoms often suggest kidney or ureteral lesions.

Great interest has been displayed in this anomaly during the past few years, yet the *Index Medicus* from 1917 to 1920 inclusive gave no reference under the heading of sacrum or sacralization. Since this time, however, it appears that volumes have been written on the subject, especially in Europe. Bertolotti⁹ in Italy has written extensively on this topic and described the symptoms so minutely that it is known as Bertolotti syndrome. In America, Adams,¹⁰ Rugh,¹¹ Goldthwait¹² and many others have written on this topic. In 1924 Moore¹ published an article that is very comprehensive, since it includes statistics taken from the files of Barnes Hospital where a great amount of material for study is found. This condition is a congenital anomaly. The late Professor Paterson,¹³ of Liverpool University, published a

monograph two years prior to the discovery of the X-ray, wherein he refers to three unilateral and two bilateral cases of sacralization and one embryo of seven months with the unilateral condition noted.

In looking over 110 pyelogram films I found this condition five times. Three times it was bilateral and twice it was found to be unilateral. It was also noted that on the unilateral films the pyelogram of the kidney had been made on the side of sacralization and on the film showing bilateral sacralization the pyelogram had been made of the kidney on the side showing the greater amount of sacralization. B. H. Moore¹⁴ examined 87 cadavers and skeletons at the Northwestern University Medical School and the University of Chicago where he found sacralization in 3.4 per cent. The anomaly he states was unilateral in all the cases. This does not coincide with my personal experience where I found approximately 20 per cent. of sacralizations bilateral.

Moore,¹ of St. Louis, states in his experience there is a high incidence of sacralization in cases sent for genito-urinary examination. This is partly to be explained by the fact that this region of the spine appears on X-ray examinations of the urinary tract in which case the finding is entirely fortuitous. However, there have been enough examples of fracture or disease of the lumbar spine sent into the laboratory for investigation of the urinary tract to convince him that the back symptoms in either class of cases are either not well understood or they are so nearly alike as not to allow a differentiation. The writer does not believe that sacralization could play any part in the production of genito-urinary disease but, on the contrary, genito-urinary disease could well exaggerate the symptoms of spinal disturbance. The occurrence of sacralization in the genito-urinary cases in the series reported is too high and the number of those of equivocal findings too great to permit of any other conclusion than that many cases of sacralization with painful back symptoms are being considered as genito-urinary cases. The five cases of sacralization previously mentioned which had been submitted to genito-urinary examination, with one exception, were all negative. This anomaly cannot be discovered except by radiography. Through this means attention has been drawn to it because the anomaly is so frequent and its association with painful symptoms in the back so close that the question of its incidence and significance deserves more careful consideration.

Southerland¹⁵ reports 527 sacralizations in 12,000 radiographs, an incidence of 4.5 per cent. Albanese¹⁶ after examination of a large

amount of material finds sacralization is atavistic. He found it in 4 per cent. of European and in 41.5 per cent. of inferior races.

Calcifications of the iliolumbar ligaments described by Daub¹⁸ are occasionally seen in routine examination of the lumbosacral region. For the purpose of study he selected twenty consecutive cases in which calcification had been seen. Of these 14 were female and six were male. The ages varied from 20 to 75. Fourteen of these cases complained of a pain in the back. Definite foci of infection were demonstrated in fifteen. In five no foci were found. Two presented old injury in this region, one, tuberculosis of the kidney, three gave a history of having had acute rheumatic fever. The majority of all these cases show definite evidence of infection. This increased density would appear to be a part of the general picture of infectious arthritis. These are best shown in the lumbosacral position with the tube tilted upward.

Fractures in the lumbosacral region, if recent, are not as a rule difficult to diagnose where good films are obtained in two planes. Remote fractures in this region are sometimes confusing where we have hypertrophic and chronological changes. (Fig. 4.) Fractures of the transverse processes also frequently occur in the lumbar region due to a fall flat on the back or a severe twist. Baetjer and Waters⁷ state that upon two occasions the writers have

seen a fracture of the process of the fifth lumbar vertebra following an attempt to make an extra long drive while playing golf. Moore¹ mentions a case of pathological fracture of the transverse process of the third lumbar vertebra due to tuberculosis where the body of the vertebra showed no evidence of the disease on X-ray examination.

Kümmel's disease is considered by many authors¹⁹ as belonging to the fracture group. Kümmel's original statement defined the condition as a posttraumatic spinal deformity, predisposed by trauma, and having first a stage of initial injury, a second stage of comparative well-being, and a third stage coming after weeks, months, or even a year, of an angular kyphosis, with development of pain, local over the spine or radiating down the extremities. Lewis thinks this so-called disease is merely an alibi in overlooked compressed fractures. He further states in his article that "recently a case has gone through my hands that did show an absorption process of high grade. This was Kümmel's disease, I must admit; also, however, it was a fracture of the spine in the beginning." Fig. 6 shows a case of Kümmel's disease of the first lumbar vertebra that recently came under my personal observation. This patient gave a history of having received an injury to the right hip with slight strain to the back five months previously, at which time the patient developed pain in the back and examination revealed the condition as illustrated. This is, no doubt, a case of Kümmel's disease.

The report of one autopsy made shortly after death in a severe spinal injury showed no compression fractures, but rupture of vessels in the spinal segments which would have caused impaired nutrition and probable necrosis of the spongy trabeculae of the body. Two cases are reported with the clinical findings and X-rays. There are no comments on treatment.

Spondylolisthesis is the term used to designate forward displacement of the lumbar vertebrae with consequent pelvic deformity. The writer reviewed 400 films of the lumbosacral region and made a recent study of 42 cases presenting the symptom of low back pain with a hope of determining what relation the lumbosacral angle as described by Lewald²⁰ and Ullmann²¹ bore to this term. In these 42 cases who complained of low back pain, 32 stated that they could not recall ever having sustained severe injury in this region. The lumbosacral angle in this series showed a wide range of variation, from thirty to sixty degrees, and we were unable from X-ray examination and the measurement of the angles to state definitely that any said degree of angulation could be diagnosed as productive of symptoms.



Fig. 4. An old fracture of third lumbar not discernible in anteroposterior position. Lateral view shows it plainly. Shows the importance of obtaining roentgenograms in two planes. At time of injury many of these cases show only minor symptoms; it is weeks or months later before the true condition is noted. Sometimes diagnosed as Kümmel's disease.



Fig. 5. Spondylolisthesis is a term used to designate forward displacement of the lumbar vertebra. The method of making these measurements is found in the text. Shown only in a lateral view and many times is overlooked. Accounts for many painful and weak back symptoms. Probably due to injury and much more common than generally thought.

Since a second series showing a marked degree of angulation did not give a history of ever having sustained an injury, nor did they complain of pain in this region, it is our personal opinion that the term "spondylolisthesis" as diagnosed by the lumbosacral angle is not conclusive evidence of dislocation, since this term signifies a definite displacement or dislocation forward of one or more vertebrae, and is best determined by a measurement of both the anterior and posterior border of the vertebral body relative to other vertebrae. Darling²² states that violence is the usual cause of spondylolisthesis and that in many cases symptoms are few at the time of injury. It is his opinion that the onset is gradual and that the diagnosis is not made for many months after the injury. Testut depicts a cross section giving a lumbosacral angle of 45 degrees, while Frazier shows an angle of 59 degrees. Lovett²⁴ shows a very small lumbosacral angle. As the spine takes on adult characteristics the angle is considerably increased. In some individuals following certain occupations, no doubt, it is a contributing factor in this formation. Lewald has studied the angle which shows the inclination of the body of the fifth lumbar vertebra, since it appeared to be most important. This angle is measured by drawing a line along the border of the fifth lumbar vertebra and determining the angle which it forms with a

horizontal line representing the central ray in exposures made in the anteroposterior position drawn through the junction of the anterior body of the same bone. One can roughly make two classifications, one in which the inclination of the fifth lumbar vertebra shows only a slight departure from the perpendicular and another in which there is considerable departure from the perpendicular. It would obviously be wrong to attribute an increase in the departure from the perpendicular to an injury to the spine, but an erroneous conclusion of this sort is sometimes made from anteroposterior exposure in which this tilting of the fifth lumbar vertebra is attributed to a slipping of the vertebra. The lateral exposure will invariably clear up the diagnosis and it will be observed that the relationship to the first portion of the sacrum has been maintained in spite of the extreme inclination of the fifth lumbar. The relative space and variation in angle between the lower border of the fifth lumbar and upper border of the sacrum is fairly constant, while the variation in the inclination of the fifth lumbar vertebra and the angle between the anterior body of the fifth lumbar and anterior body of the sacrum varies greatly in normal individuals. The lumbosacral angle varies greatly in healthy individuals. At birth the angle is considerably less than that observed in the average adult. Diagnosis of the lumbosacral dislocation should never be made from anteroposterior exposure alone. The lateral view showing a definite anterior displacement of the body of a vertebra measured on both the anterior and posterior border relative to the articulating vertebra, is necessary for the diagnosis of spondylolisthesis. The base line suggested for this examination by Ullmann¹⁷ is established on a lateral view of the lumbosacral region as follows: Two points are taken on the edge of the sacrum articulating surface as far apart as practical. These points are then connected by a straight line which is projected forward until it intersects a line which is the anterior margin of the sacrum or the prolongation of it. If the anterior superior margin of the sacrum is an angle, the articulating surface line will intersect the anterior surface line at the point of angle. If rounded, both lines must be prolonged until they intersect. A line at 90 degrees to the articular surface line is now erected at this point of intersection. It is believed that this line perpendicular to the articulating surface base line should be well in front of the inferior margin of the fifth lumbar un-

less there is an anterior displacement of the vertebra. No symptomless individuals have so far been found where this is not true. Notwithstanding this statement we feel that these measurements only indicate a high degree of angulation and are not necessarily pathognomonic of a displaced vertebra.

As the X-ray examination of the lumbosacral region is becoming more and more im-

iliac separation or relaxation. Aside from this condition, the only time this joint shows move-



Fig. 6. Five months previous to X-ray examination of lumbar region patient fell from a scaffold injuring right hip with slight strain to back. Patient was able to walk and bend his back with very little pain. Injury to back in the opinion of attending physician was not sufficient to warrant X-ray examination. With no further injury patient returned five months later complaining of pain in lumbar region, with beginning kyphosis. X-ray examination revealed fifty per cent. absorption of body of first lumbar. Whether or not this was a compression fracture we are unable to state, since no X-ray examination was made. No definite evidence of fracture; is now a typical Kümmell's disease.

portant in liability cases and the term lumbago is being replaced by the more nearly scientific sacro-iliac strain or dislocation, it is important that we acquaint ourselves with the X-ray findings of the sacro-iliac joint. This joint has a synovial lining and is, therefore, subject to strain, relaxation, subluxation, dislocation, arthritis, or any focus of infection. Where there is actual separation of the pelvic girdle, such as in displaced fracture, or displacement or separation of the symphysis, it is usually not difficult to show by X-ray a definite sacro-



Fig. 7. The so-called sacro-iliac strain is not demonstrable by X-ray examination. Faulty technic and lack of knowledge of interpretation often lead to error in diagnosis. Illustration (upper half) is of a patient who showed uniform width of sacro-iliac joint spaces on either side. Slight tilt of pelvis shows what appears as a marked separation of the sacro-iliac joint, left side. Lower half shows slight reversed tilt of patient. Patient works every day. No history of injury to this region. An error in diagnosis based on these films could easily be made in X-ray interpretation.

ments is during childbirth. (Holmes and Ruggles.²⁴) The so-called sacro-iliac strain is not demonstrable on X-ray films. We know of no words in the medical dictionary handled so recklessly by the average physician. Our courts are crowded with doctors presenting X-ray films attempting to show sacro-iliac dislocation. An X-ray examination of the sacro-iliac region should always be made stereoscopically, the tube shift with the spine and never across the pelvis. Fig. 7 shows how faulty technic easily leads to wrong interpretation.

These films are of the same individual. In one exposure the patient was lying flat on her back and in the other exposure a book one inch thick was placed under one side of the pelvis which produces the distortion shown. With such films the average jury could easily be convinced that a permanent disability existed when the facts are that this patient has sustained no injury and no disability exists.

Other conditions in this region deserving mention are syphilis, tuberculosis, malignancy, arthritis, hypertrophic, postural and chronological changes. Syphilis usually destroys a portion of one or more bodies, preserving intravertebral discs. The affected area is often surrounded by calcified masses of detritus. Extensive hypertrophic changes are often noted.

In tuberculosis the process usually begins in the neighborhood of intravertebral discs and destroys the bodies of one or more vertebrae, which collapse. In malignancy due to metastasis in this region the morphology of the vertebra is not changed and the intravertebral discs not destroyed but show a moth-eaten appearance. Arthritis involving the lumbosacral region, if of long standing, may produce hypertrophic changes. Yet these changes are sometimes noted in vertebral bodies of patients giving no history of injury or evidence of infection. Spur formation on the vertebral bodies will also be found producing no symptoms. Skinner²³ states these changes are not the answer to the bones of chronic infection—they are an answer to stress and strain—an increased strength of structure. Necessarily these changes limit motion. They may even completely fix the lumbar spine. These changes so often expressed as osteoarthritis and hypertrophic arthritis are not pathological and should not carry a nomenclature indicative of inflammation. They are purely structural changes resulting from the demands of heavy occupation.

SUMMARY

1. Backache is one of the most common of complaints. Its causes are numerous. The varied anomalies and chronological changes in the spine make the X-ray diagnosis of limited value in many cases.

2. The anatomical strength of the lower half of the spine depends more on the soft tissue structures than the osseous system as a support of the torso. The high percentage of anomalies in the osseous parts may weaken muscle attachments.

3. The value of X-ray examination of the lumbosacral region depends upon good stereoscopic and lateral views and a good knowledge of interpretation.

4. Many anomalies and congenital spinal defects are incorrectly diagnosed as due to injury.

5. Sacralization of the fifth lumbar vertebra or an increased lumbosacral angle are not necessarily pathognomonic of low back pain.

6. Fracture of the body of a vertebra or a transverse process at the time of injury may show few symptoms. Kümmel's disease is the result of previous trauma to the body of a vertebra.

7. Metastatic malignancies are common in the lumbar region and may or may not be productive of localized pain.

8. False joints due to sacralization are subject to all infections and symptoms of other joints and may give rise to back pains simulating pathology in a genito-urinary tract.

9. Sacro-iliac strain or subluxation is not definitely diagnosed by X-ray examination so long as the pelvic girdle remains symmetrical. Ninety per cent. of such diagnoses on any other grounds are due to faulty technic. Stereoscopic views should always be made of the sacro-iliac joints, the tube shift with the spine and not across it. A slight elevation of one side of the pelvis will always show distortion of the sacro-iliac joint.

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REFERENCES

1. Moore, Sherwood: *Radiol.* **2**:287 (May) 1924.
2. Straub, G. W.: *The Diagnosis of Conditions Causing Backache*, J. A. M. A. **81**:670-674, 1923.
3. George, A. W., and Leonard, R. D.: *Radiol.* **2**:197 (April) 1924.
4. Kidner, F. C., and Lakoff, C. B.: *J. A. M. A.* **79**:200 (March) 1922.
5. O'Reilly, Archer: *South. M. J.* **15**:217, 1922.
6. Richard, A. J.: *Am. J. Roentgenol.* **1**:434, 1919.
7. Baetjer, F. H., and Waters, B. A.: *Injuries and Diseases of the Bones and Joints*, New York City, Paul B. Hoeber, Inc., 1921, p. 3.
8. Willis, Theodore: *Am. J. Anat.* **32**:95, 1923.
9. Bertolotti, M.: *Reforma Med.* **33**:1,29,38,85, 113, 1917.
10. Adams, Z. B.: *Boston M. & S. J.* **162**:569, 1910.
11. Rugh, J. T.: *J. Bone & Joint Surg. N. S.* **5**:235, 1923.
12. Goldthwait, J. E.: *Boston M. & S. J.* **164**:365, 1911; **168**:128, 1913.
13. Patterson: *Scientific Transaction of the Royal Dublin Society*, 1893.
14. Moore, B. H.: *J. Bone & Joint Surg.* **4**:322 (April) 1922.
15. Southerland, C. G.: *J. Radiol.* **3**:357, 1922.
16. Albanese, A.: *Chir. d. Organ. di movimento*, **5**:577 (Dec.) 1921.
17. Albee, H.: *Orthopedics and Reconstruction Surgery (Injuries of the Bones and Joints)*, Philadelphia, W. B. Saunders Co., 1919, p. 164.
18. Daub, Harold P.: *Am. J. Roentgenol.* **12**:169 (August) 1924.
19. Lewis, Dean: *System of Surgery, Vol. Bones and Joints*.
20. Lewald, L. T.: *Am. J. Roentgenol.* **12**:362, 1924.
21. Ullmann, H. J. A.: *Roentgenol.* **2**:305 (May) 1924.
22. Darling, B. C.: *Am. J. Roentgenol.* **12**:67, 1924.
23. Skinner, E. H.: *J. Radiol.* December, 1926.
24. Holmes, George W., and Ruggles, H. E.: *Roentgen Interpretation*, Philadelphia, Lea & Febiger, 1921, p. 49.

DISCUSSION

DR. LOGAN CLENDENING, Kansas City: I am a general practitioner and my viewpoint on these things is the viewpoint of a man who sees all kinds of patients coming into his office.

As a general discussor of the paper, I presume you want me to tell you which of these four specialists was right. Before I heard the symposium, knowing the character of specialists in general, I had made up my mind I would be able to tell you that they were all wrong. As a matter of fact, the symposium was a good deal better than I expected it was going to be. I am very pleasantly surprised.

Of course, the general practitioner is not supposed to know anything about matters that these high grade specialists deal with, and yet, surprising as it may seem to you, we find out a good deal one way or another. For instance, in the case of the subject under discussion, we have a man who has a backache and we send him to a good urologist. He disappears from our sight for a while and finally he comes back and we say to him: "How are you, Jim?"

He says: "Not a bit better."

We say: "Didn't you go over to see the urologist I told you about?"

"Yes."

"What did he do to you?"

He says: "He stripped my seminal vesicles."

We say: "Didn't that help you?"

"No."

"What are you going to do now?"

He says: "Well, doctor, he wants to take those vesicles out, but I don't believe I want to do that. You just give me some liniment and fix me up. In the course of a year or two I feel certain my back is going to be all right and I won't have to have those things removed."

In this way, you see, we learn about the effectiveness of urologic treatment in backache.

Then so far as the gynecological treatment of backache is concerned we get an insight into that because we constantly see patients who have had backaches and some gynecologist has glibly promised them that if the uterus is straightened up or the cervix fixed the backache will be cured. They have the operation and a year or so later they appear in our offices and we find they have something besides the operation—they have just the same backache they had before. So one way or another the general practitioner gets to know a good deal about backache.

From the standpoint of the general practitioner, very briefly, in going over what my experience has been, I should like to sum up the clinical facts about backache as follows: I will discuss the causes of backaches, seeing them in a group; the means of examination and the means of treatment. As a matter of fact, they are quite simple. The general practitioner can take care of ninety-five per cent. or more of all people who have backache.

Of the causes, the largest single group of people with backache fall into the group of the neuroses. That has been hinted at here. Dr. Caulk's philosophical dissertation on mankind's desirability to have a stiff back in times of stress is simply a psychological indication of the fact that there is such a thing as a mental back as well as a physical back. What Dr. Cole told you, the harvest that the irregular practitioners get out of backache, is largely due to the fact that most backaches are neuroses, for the bulk of all the patients of irregular practitioners are psychoneurotics.

Two points about the backache neuroses: They

may be of various kinds. It may be a fatigue neurosis. It may be a personality neurosis, particularly martyr neurosis. The only way some people can acquire attention is to have a very mysterious and incurable backache. It may be a lazy escape neurosis. A person with a weak back cannot work. A woman with a weak back cannot bear children. In other words, a lazy escape neurosis. The second point is that you may have a neurosis in association with organic disease. You may have a patient with one of these old spines with not a normal curve in the spine and hypertrophic arthritis, and with it a backache that has absolutely nothing to do with the vertebral disease that is present. You may have in gynecological conditions a backache that has absolutely no relation to the pathology which may be present in the pelvis. In other words, because a woman has a backache and a retrofixation of the uterus it is not necessarily true that the uterus is the cause of the backache.

In point of etiology the second largest group of backaches I think are the cases of myositis or inflammation of some of the soft parts of the back. Lumbago is a plenty good enough word for that. Very largely those are in men, very largely I think because men are exclusively endowed with seminal vesicles. The third largest group of backaches is the postural group. The rest of the backaches will fall into some of these rather rarer groups which the gentlemen in the symposium have covered very well.

As to the examination of a person with backache, the most important thing to do is to sit down and talk to your patient for a long time, as long as you can possibly give him. By all odds the most important part of the diagnosis of backache is the history. After that, the physical examination, starting with the eyes and their reflexes, with the nose, the teeth, the tonsils, the chest, the pelvic organs and finally a physical examination of the back, which can be done by any one who takes five minutes to learn the normal movements of the spine and who takes the trouble to have the patient stripped. This last emphasis may seem out of place to you. Let me illustrate.

I had a man before a class of medical students yesterday who said he had consulted seven doctors for heart disease. After he had told us his story I had him take off his shirt and undershirt. As he was taking it off, I happened to say to him, "How many of the seven doctors have ever had you take off your undershirt?" and he said, "One."

After the physical examination and the history which together give you ninety per cent. of your information in your examinations for backache, the next most important thing I think is to examine the urine. After that, possibly an X-ray examination and then certain other chemical and laboratory examinations of blood or secretions which amount to about half of one per cent. in value of the complete diagnosis. Notice all these things can be done by any general practitioner anywhere.

As to the treatment, ninety-five per cent. of all backaches can be treated just as well by the general practitioner as the specialist, by considering first the economic, social and personal status of the patient; second, by searching for focal infections; third, by using the methods familiar and applicable by every one of massage, heat, counter irritation, and sometimes exercise, sometimes mobilization. If none of these means is successful you may then consider the possibility of turning over the patient with backache to an eminent specialist.

DR. R. M. SCHAFFLER, Kansas City: I knew I was going to enjoy the symposium, and I have enjoyed it ever so much. I thought I was going to

have a good time discussing it until I saw Dr. Clendening was going to be the formal opener. I knew he would have most of the fun and I would have to trail in as an anticlimax on anything I had to say.

The symposium is very well worth while. Every day of my life I have to struggle with the backache problem one way or the other and I don't find it very easy. I would rather have them come in with something right bad the matter with them. It doesn't cause me so much trouble or brain fog. I have a higher score of success with many serious ailments than I do with chronic backaches.

The gynecological causes were very well presented. The diffuse sacral pain often running down to the coccyx corresponds very well with my own observations.

The genito-urinary contribution was beautifully presented and is something that we all need to heed. Of course I wouldn't rate the proportion of backaches from the bladder or seminal vesicles anywhere near as high as the essayist has. He sees urological cases with backache and I see more mechanical cases with backache. It is very important that some thought should be given to the prostate and the base of the bladder and I, as an orthopedic surgeon, would be the last man to be expected to do it. I have humiliated a number of internists by being the first one to make a rectal examination and to note the condition of the bladder. Sometimes a severe back pain with negative or trifling X-ray findings is the first symptom of carcinoma of the prostate.

The X-ray reports were beautiful and important and in no particular more important than the technique of taking the picture, because you can get almost any kind of queer appearance by just moving the tube up and down. You have transverse processes, impacting against the pelvis, and when you move the tube you see that they don't touch the iliac crest at all. You see all sorts of apparent abnormalities which are entirely due to the picture being taken wrong and it is important to recognize those artifacts. The way the picture is taken is of vital importance in the diagnosis, and to talk about a spine without a lateral X-ray is just a waste of time if you are looking for any serious condition.

Dr. Dickson's paper was well set forth, beautifully illustrated, and very much to the point. Did you notice that he didn't say a word about sacroiliacs? For many years you have never heard anybody talk about a low back pain without talking about sacroiliacs. I think he expected some fellow to jump up and ask him why he left them out so I will ask him.

I still believe that there is such a thing as a sacroiliac sprain and that it may be the result of an actual mechanical slip or displacement. It is not nearly so frequent as we thought ten years ago and there are many more lumbosacral sprains and many postural strains not localized in one small area.

Dr. Dickson did not cover the serious lumbosacral pains with spondylolisthesis. I want to emphasize the incipient cases with only slight mechanical displacement but much ligamentous strain.

In Boston, where they first popularized the sacroiliac, they have gone to the other extreme and Osgood recently wrote a paper in which he claimed that all sciatic scoliosis was always due to colon infection. The truth lies between the two views. We can play the mechanical theory too strong. If we swing the pendulum over and consider that they are all infections we will go too far the other way.

The cause of low back pain must be sought in one of these three major groups:

1. A referred pain from the genito-urinary tract

or rectum or abdominal viscera, or a pain due to some early spinal lesion.

2. A pain of mechanical origin due to some sprain or strain or displacement of the vertebra, either traumatic or postural.

3. A pain due to inflammation; either an actual destructive bone lesion or some type of myositis or arthritis due to toxins from some local focus of infection. The arthritis which causes the worst pain shows least in the X-ray while hypertrophic spurs and rims often cause no pain.

Perhaps I ought to add a fourth class—the neurotics. But we should not put anybody in this class except after careful examination and long observation.

DR. G. WILSE ROBINSON, Kansas City: I have seen two cases in consultation recently that should warn us against treating backache or back pain with indifference.

A great many cases of backache and back pain are associated with the normal conditions of fatigue, so-called neurasthenic states, and are of little importance. They disappear when the general symptoms disappear; but others are different.

I saw in consultation recently a physician who had what he thought was influenza for a few weeks. The most prominent symptom was backache, back pain. He quite suddenly developed a paraplegia high up in the dorsal region. He lived for two weeks and died of a kidney infection. His back pain was due to an inflammatory condition. He had evidences of a meningitis but not of the specific type. He had an inflammation affecting the roots. His pain was due primarily to a radiculitis but that inflammatory condition invaded the spinal cord and produced a paralysis from the level of the nipple line down.

Another patient had backache and back pain for several weeks. That was his most prominent symptom. I saw him after he had developed a paraplegia in the lower dorsal region. There was no suspicion of luetic infection on previous examinations but the spinal fluid gave a positive Wassermann. He died of ascending myelitis a few days after I saw him.

So I say we should not treat backache with indifference. We should not call it lumbago and make no further investigation. The symposium has impressed upon us the importance of a very thorough investigation of all back pains by the X-ray, laboratory tests, general examination and, as has been emphasized by Dr. Clendening, a very careful history of all cases of backache.

DR. M. PINSON NEAL, Columbia: I happen to be a pathologist and see the end results of many of the things the specialists and the general practitioners pass along. This symposium on backache reminds me very much of a biblical statement, "And the shepherd shall leave the ninety-nine sheep and search for the one that has become strayed." We are looking too much for the rare, unusual things and are neglecting the things that are coming to the office every day, as Dr. Clendening has said. The man who searches for the unusual and rare is apt to let the majority of patients go through his hands without relief or benefit.

I am surprised that a group of essayists should get on this platform and neglect even to mention visceroptosis and nephroptosis as causes of backache. My colleague, Dr. Robnett, and I had hoped to give at this meeting a paper on a group of lesions that are practically not recognized, or little written of,—lesions of the mesenteric and retroperitoneal lymph nodes. How little does one in the practice of medi-

cine or in surgery appreciate the fact that the hypertrophic lymph nodes of the mesenteric group and those of the periaortic group alike cause varied symptoms and manifestations. Lymph nodes of the periaortic group with the incident swelling attending their enlargement and the often surrounding inflammatory and vascular changes, do cause backache and other manifestations that are little known of. Of course in backache many of the manifestations are due to primary local tissue involvement, and this must not be overlooked when we are considering the lymph node lesions which are essentially and almost exclusively secondary lesions.

The nodes in these groups are frequently involved as complicating or associated lesions. As consultants, we see them in the operating room and again and most commonly on the autopsy table as metastases in carcinoma from primary growths of the various organs, constantly in typhoid fever and the leukemias, commonly in tuberculosis, particularly in tuberculosis of the intestines, mesentery and kidneys, regularly as a part of the general lymphadenopathy of status lymphaticus, frequently in the luetic individual and again in that group termed idiopathic lymphoid hyperplasias and hypertrophies.

I would like to emphasize the fact that some of the things spoken of as idiopathic might not be so termed if we went to an extreme degree to find them, as the X-ray and some other methods used in looking for joint and bone disturbances. Of course, many times they cannot be palpated through the abdomen, but exploratory incision by competent men will interpret the lesions and the patient may get benefit,—at least mental relief.

DR. F. A. JOSTES, Columbia: Each man on the program has given us a very concise presentation of his phase of the subject and, like Dr. Neal, I should like to say that many times we fail to discover the utterly simple thing which produces back strain and backache.

Dr. Dickson mentioned static deformity but only mentioned the deformities above the pelvis. I am certain that he did not mean to do that because I know he considers foot strain also a cause for backache.

Not infrequently one sees patients complaining of backache who have run the gauntlet,—the gynecologist, the urologist, roentgenologist—and nothing can be found in the spine or anywhere to cause pain. If you will lift the sheet and look at the feet you will see the reason there; simple foot strain. Simple deformity will certainly cause backache, and if treated in the most simple way with perhaps a pad or a heel built up a certain way you will find that many of your cases which have not responded to ordinary treatment will come back to normal.

DR. JOHN R. VAUGHAN, St. Louis: I rise simply to emphasize that type of low sacral pain, which is so often of pelvic origin, and to remind those of you who are especially interested in gynecology that we should always be modest—we usually are. We should always trust that our patients have consulted Dr. Dickson of Kansas City, Dr. Cole of Springfield, Dr. Caulk of St. Louis, and have finally come to us with the investigation complete, except for the pelvic examination. If, by chance, general medical, orthopedic and genito-urinary examinations have not been made, we should start the patient on the rounds. We demonstrate our modesty in that way. All doubtful points having been cleared up in the other fields, we find that ninety per cent. of our women patients have a vaginal discharge and almost invariably a cervicitis of some degree. As

Dr. Crossen has outlined, a cervicitis is due to the irritation of an infection and this process frequently extends to the parametrium. When it involves the posterior parametrium and especially the sacro-uterine ligaments, we are apt to have backache.

If all other causes of a chronic diffuse sacral backache have been eliminated, please take the point which presents itself to you through the speculum as the probable cause of the pain, namely the inflammatory cervix. Chronic cervicitis can be treated very simply and satisfactorily by thermic cauterization, using a low grade heat of short duration, or by surgically removing the glandular portion of the cervix. Either procedure is easy to carry out. The cause of the sacro-uterine inflammatory process is thereby removed and the referred backache is bound to improve.

Do not take it for granted that a cervicitis, with its attending vaginal discharge, must persist, because that is not true. Do not treat a chronic cervicitis by chemical means. Such treatment is tedious and in a large measure ineffective. Either heat or surgery will clear up that common source of irritation to the posterior parametrium and thereby relieve a large percentage of your gynecological backaches.

DR. F. G. NIFONG, Columbia: It is difficult to understand the significance of pain in the back. Pain is a subjective sensation and in most instances it is the signal of danger indicating that inflammatory conditions and infections are taking place in various parts of the body; but the significance of pain in the back must be discounted to a great extent.

From time immemorial we have heard of pain in the back as a "misery" as our relatives, ancestors and servants called it. It is the most common excuse to get out of work, get out of doing something, not go to church, or anything of that kind. It was a good excuse because others could not deny you had pain. The newspapers used to advertise patent medicine for misery in the back and kidney disorders. If you see cloudy urine you are on your way to death!

Several years ago some gypsies camped on my place were stealing corn and I telephoned to the sheriff to come out and arrest them. He answered, "I can't. I am down on my back." He was down and didn't like to get up at two o'clock in the morning.

The significance of back pain is just this, in my opinion: It makes you look for something—and that is what pain is for, to indicate that you have to find out what is producing it. Let the gynecologist, urologist or somebody else find it and the cause, if he can, but the general practitioner can usually give a pleasant mental treatment and a little suggestive therapeutics with good success. Often what is done by the celebrated specialists as a suggestion cures the backache which was simply a subjective proposition and got well.

DR. FRANK DICKSON, Kansas City, in closing: First as to the question of the sacro-iliac joint. There has been so much said about the sacro-iliac, and it has been so definitely the refuge of everybody who couldn't explain a low back pain on other grounds, that I purposely left it out.

I personally have stabilized some thirty-seven lower backs for pain with, I am glad to say, very definitely good results. In one out of thirty-seven, I stabilized the sacro-iliac joint. This gives the proportion of sacro-iliac cases in my experience.

I was very much impressed with the graceful, easy

way Dr. Clendenen cures his back cases, but I do feel I must take up the cudgels on behalf of the specialist who doesn't know as much as the general practitioner or the internist, we admit. I wish to say this, however, that not fifty per cent., not seventy-five per cent. but one hundred per cent. of the backs I see have had the benefit of treatment by the internist and the general practitioner before they come to me. This means that not all internists are as successful as Dr. Clendenen, apparently.

So far as the subject of visceroptosis and flat foot is concerned, unfortunately you can't say in twenty minutes all that should be said. I threw my postural pictures on the screen and mentioned the fact that poor posture showed itself by flat feet, a long, narrow chest and lordosis. All such cases are visceroptotics. We didn't neglect them although we could not go into detailed discussion of this condition.

Finally, as to the question of backs not causing much trouble, malingering and so on. I must say there was a period when I approached a patient with low back pain with considerable skepticism. The majority of my patients, however, are farmers, not laboring men, not machinists, but farmers who have had to give up farming because of low back pain. When a man gives up his farm he gives up his income, and something certainly is wrong when a man gives up his certain source of income because of his back pain. In certain industrial cases you must be on the lookout for the malingerer, the man who wants to get his compensation, but always be sure that there are no objective symptoms present before arriving at this diagnosis.

What is the purpose of this symposium? I tried to sum it up when I said you must approach the whole subject with an open mind; not from a single angle but from all possible angles.

I remember distinctly some years ago putting a beautiful back brace on a man. He was relieved by massage of his prostate. Since that time we have never neglected to make a prostatic and rectal examination on any man complaining of low back pain and we like to have other pelvic examinations on women.

In other words, approach your low back pain not with the idea that you are dealing with a neurasthenic or a malingerer, but give the individual the benefit of a thorough, broad-minded examination and withhold your judgment until it is completed. If you do that you won't be treating a case with apparatus when it is a prostatic case and you won't be operating on gynecological cases when they shouldn't be operated upon. You will be giving the individual a chance to be relieved of his pain, which is what he comes to you for.

DR. JOHN R. CAULK, St. Louis, in closing: I thought our quartet sang its part in the symposium in pretty fair harmony. I always heard that Dr. Clendenen was a very great physician and have known him for a long time, but if he can diagnose ninety-five per cent. of all the backaches by himself I think he is superlative.

The backache problem is a serious one and, as all of us said in the symposium, I think it needs the cooperation and correlation of all branches of medical science to unravel some of its intricacies. We cannot disregard them and call them neurasthenics. We should look into every phase of the pathological conditions in order to decipher their origin.

PAIN IN THE LOWER ABDOMEN

SIGNIFICANCE IN GYNECOLOGICAL
CONDITIONS*¹

Q. U. NEWELL, M.D.

ST. LOUIS

I wish to beg your pardon for speaking to you this afternoon on a subject which sounds so elementary. I know many of you think it is useless to investigate the cause of pain occurring in the lower abdomen in women and you realize that many conditions cause pain and that it is only necessary to determine if the pain is one for medicine or surgery to deal with; and yet the very fact that it is so constantly present and that it is so frequently met with should make us all the more desirous to study it and not overestimate it, nor yet underestimate it. It may be caused by many simple things and by equally many serious organic lesions; the simple and the serious may begin in exactly the same way and yet if the serious organic disease be mistaken for the simple then a tragedy may result. Pathological conditions outside the abdomen give rise to pain which the patient may refer to the abdomen, such as pleurisy, pneumonia, angina pectoris, herpes zoster, etc. The same is true of conditions of the upper abdomen, such as gallbladder disease, kidney or ureteral disease, gastric or duodenal ulcer, etc.

Pain in the lower abdomen is a symptom of many conditions and it is only by a very careful history obtained from the patient, together with a most careful abdominal and pelvic examination that a diagnosis can be arrived at. A history of the onset of the pain, character and location, whether acute or chronic, its association with menstruation, etc., is very necessary. It is a good policy to ask the patient to place her hand over the point of greatest intensity and it will often be helpful in locating the organ which is diseased. The history should be thorough enough to bring out everything relevant to the case, and first of all the patient's marital status. The mode of onset of the attack is again suggestive. A slow gradual beginning makes one think of an increasing inflammatory process, as of appendix or adnexa, whereas a very acute stabbing attack would point to a perforation or twisting of a pedicle. A constant steady pain is probably indicative of an inflammatory lesion while a recurrent colicky pain usually denotes an obstruction somewhere, as in intestinal obstruction, ureteral stone, etc.

*Read at the 71st Annual Meeting of the Missouri State Medical Association, Columbia, May 14-18, 1928.

1. From the Department of Gynecology, Barnes Hospital and Washington University Medical School.

Of very great importance is a very careful abdominal and pelvic examination, always remembering to remain away from the area of greatest intensity until the final palpation in order not to cause rigidity and muscle spasm of the abdominal muscles. I shall now consider in a little more detail the different gynecological lesions causing pain in the lower abdomen.

When one encounters pain in the right lower quadrant of the abdomen he has to consider pathology of the gallbladder, floating kidney, kidney stones, pyelitis, ureteral kinks or stones, appendicitis, fixation or stagnant cecum, chronic colitis, malpositions of the uterus, especially retrodisplacement and ovarian and fallopian tube disease. In the left lower quadrant the same is true with the exception of the gallbladder and disease of the cecum and appendix; but in addition there may be an enlarged or dislocated spleen and chronic constipation; in the median line cystitis, stone in the bladder and uterine disease. In case of a stone in the bladder or cystitis causing pain in the abdomen, a careful urinalysis and cystoscopic examination is all that is necessary to arrive at a diagnosis. If the pain is uterine one must first think of a menstrual disorder, which can be ruled out by a careful history, but if the pain is due to new growths of the uterus a very careful pelvic examination will determine the condition.

Strange to say very few patients ever complain of pain in the median line of the lower abdomen. They almost always complain of the pain being in one or the other lower quadrant. One would suppose that retrodisplacements would cause pain in the median line but such is not the fact. The pain is in either the lower quadrant of the abdomen or referred to the back.

In considering the cause of pain in the right lower quadrant of the abdomen the first which comes to my mind is of course the appendix. This small but ever troublesome structure is the most common offender, and the typical attack of an acute appendix begins with discomfort in the epigastrium, nausea and vomiting followed by pain all over the lower abdomen finally localizing in the right lower quadrant. There is nearly always muscular rigidity and local tenderness. However when the appendix is retrocecal there may be very little muscular rigidity and tenderness over the appendix area but a definite tenderness and rigidity well back in the right flank extending up toward the kidney. The temperature and white count will be elevated ordinarily, though I have seen the white count diminished and the temperature subnormal.

The differential diagnosis of acute appendicitis from acute cholecystitis, acute pyelitis and acute salpingitis is not easy. After a careful history has been obtained as outlined in the previous part of this paper, one must approach the matter in a systematic manner. Acute pyelitis can be excluded by a very careful urinalysis, sometimes repeated urinalyses being necessary before finding the many pus cells that are normally present because of a blocking of the ureter. In acute cholecystitis there may or may not be some jaundice but the history is of great importance and the pain ordinarily is referred to the upper abdomen.

Acute salpingitis is very often confused with acute appendicitis and sometimes it is most difficult to arrive at an accurate diagnosis. It is interesting to note that acute appendicitis and acute salpingitis often come on during the menstrual time; this is explained by the fact that the entire pelvis is in a state of congestion and the organisms present multiply and incite disease. Here the history is most important, especially as to whether or not the patient has been exposed to intercourse and consequently pelvic infection. If in an unmarried girl the hymen is intact and no external evidence of specific infection is present and you have excluded pyelitis and acute cholecystitis, the condition is one purely and simply acute appendicitis.

One exception may be encountered and that is in case of a small retention follicle cyst of the right ovary. A retention follicle cyst of the right ovary is fairly common and is most often seen in young virgin women, and I must say simulates acute appendicitis in many respects. I have seen several cases in young women in which the abdomen was opened for acute appendicitis and a normal appendix was found, but a fair sized retention cyst on the right ovary was present. The condition is difficult to diagnose as on rectal examination the cyst cannot always be palpated. This is an excusable mistake and no one should feel embarrassed when he fails to make the proper diagnosis. In married women where pelvic infection may be present, to arrive at a diagnosis one should make smears from the cervix and the Skene glands of the urethra and examine for gonococcus. He should inquire as to the possibility of instrumentation into the uterus or of a recent pregnancy, etc. On a very careful pelvic examination if salpingitis be present the enlarged, infiltrated, tender tube will be palpated with tenderness throughout the pelvis; sometimes a retrocecal appendix that has ruptured and the contents have extravasated to the pelvis you will give the same findings but the history will

help you immensely. In acute salpingitis the temperature and leucocyte count are the same as in acute appendicitis.

Let us next consider the cause of pain of a chronic nature in the right lower quadrant of the abdomen. Floating kidney with kinking of the ureter or kidney or ureteral calculi can be excluded by cystoscopy with pyelogram; the same is true of pyelitis and tuberculosis of the kidney. Uterine and adnexal disease, the most common of which are myomas, ovarian cysts, chronic salpingitis (pyosalpinx, hydrosalpinx), chronic pelvic cellulitis and extra-uterine pregnancy. A very careful pelvic examination ordinarily is conclusive. The differentiation of the masses is not difficult to the trained gynecologist who is daily examining numerous women. In my experience the diagnosis of extra-uterine pregnancy is the most difficult. Much has been written and said about the diagnosis of this most important condition and each investigator has mentioned many diagnostic points most of which will not stand detailed application. Very rarely one sees a clean cut case of extra-uterine pregnancy. I have devoted much thought and time to this particular condition and when checking up my own records I find I made the correct diagnosis in about fifty per cent. of the cases. In those cases in which a diagnosis is easy or those in which you have previously examined the pelvis and have careful notes and with a history of extra-uterine pregnancy followed by a pelvic examination, you find a mass in one or the other adnexa. It is important to remember that no pain is ordinarily present unless a rupture of the tube has taken place and this is an acute pain which is followed by vaginal bleeding. It is not necessary for the patient to give a history of overtime menses. Many of these extra-uterine ruptures take place at the time of the menses and the pain and vaginal bleeding continues for an indefinite period. The blood count is helpful. Ovarian cysts, especially those in which a retention follicle is present resemble in many respects an extra-uterine pregnancy, as pain and bleeding, together with the finding of a mass in either adnexa are always present. I might say in my opinion this is the most common condition in the pelvis confounded with extra-uterine pregnancy.

Next, one must turn his attention to a chronic appendix or fixation or stagnant cecum, or chronic colitis. A gastro-intestinal X-ray study is usually diagnostic. In locating pain in the lower left quadrant of the abdomen one must consider an enlarged or dislocated spleen. The condition is rare but when present can be located by a very careful physical examination.

Uterine and adnexal disease, including extra-uterine pregnancy, has already been mentioned in taking up the lesions of the right lower quadrant.

The greatest cause of pain in the left lower quadrant in women in my mind is chronic constipation, caused by the fact that the greatly enlarged lower bowel seen in spastic constipation in women encroaches upon the left ovary. The ovary from irritation shows a chronic oophoritis and when the two organs are in apposition great pain is elicited. These patients are greatly relieved when the constipation is corrected. A condition very common in women and one that causes great discomfort and usually not diagnosed by the gynecologist, is one where the broad ligaments are filled with varicose veins. The cause for such a condition is the same as for varicosities elsewhere in the body.

Not all retrodisplacements of the uterus cause pain in the lower abdomen; in fact the most common complaint from retrodisplacement is backache, a condition I am not discussing in this paper. If a retrodisplacement is causing lower abdominal pain the restoring of the uterus to its normal anteflexed position will be curative. Tuberculous salpingitis and tuberculous peritonitis are chronic conditions which cause marked pain in the lower abdomen. A diagnosis is very difficult.

On examination you may find nothing but tender finger-sized tubes, elevation of temperature, a low leucocyte count and as the involvement reaches the abdominal peritoneum you will have some distention of the abdomen and fluid is present. Acute pneumococcus peritonitis was not recognized until recently. It is acute in its onset and involves the entire peritoneal cavity. It is a very serious condition in which pain is present throughout the entire abdomen; there is great abdominal distention, the peritoneal cavity is filled with pus and there is no tendency for the pus to localize but is free throughout the cavity. The outcome is usually fatal.

Pain in the lower abdomen as a result of intestinal obstruction is seen in large growths of the pelvic organs, whether benign or malignant, in inflammatory disease of the pelvis and in postoperative adhesions. The diagnosis is ordinarily easy. The history and symptoms are those of intestinal obstruction, sharp shooting pains, intermittent in character, abdominal distention, vomiting (becoming fecal), inability to pass flatus, and signs of increasing toxemia.

The lightning pains of tabes have been responsible for a goodly number of unnecessary laparotomies. The pain in tabes is usually very

sudden and of short duration. Examination of the eyes, reflexes, etc., will reveal concomitant evidence of the disease.

There is a type of abdominal pain that requires much thought. It is the type seen in women who complain of constantly recurring abdominal aches and pain of one sort or another, often referred to the right iliac fossa. She complains also of indigestion and chronic constipation. Her menses are deranged and she has remote symptoms of various kinds,—headaches, "rheumatic" pains, fatigue, nervousness and insomnia. These are the symptoms she complains of but her mental condition is more pronounced. She is depressed, melancholic, self-centered and irritable. She constantly talks about herself and describes her symptoms to everyone she meets, always inviting sympathy. She has visited many physicians and specialists. She has consulted the masseuse, osteopath and chiropractor and has even undergone many operations. On examination the patient is found undernourished, has an ugly color and exhibits a certain amount of visceroptosis. The stomach is atonic and functions slowly. Intestinal peristalsis is sluggish and the lower bowel has little tendency to empty itself. The uterus is usually in retro-displacement without symptoms. These patients are classified as neurasthenia, hysteria or psychopathia and deserve much consideration in order to relieve them of their pain. Before they are classified as such everything should be done in order to eliminate all physical causes of ill health.

If some definite disease be found which is not curable by medical means, the gynecologist should be consulted at once as a continuance of pain which cannot be otherwise relieved adds to neurosis. It is wrong to operate first and investigate later, as noncurative operations make these patients worse. Many times the cause of complaint in these patients can be located by our various X-ray and laboratory diagnostic methods.

I wish to cite a case which illustrates this fact most beautifully. Several months ago a young woman applied to the Gynecological Outpatient Department of the Washington University. She was 30 years of age and had had an operation for removal of the appendix. Two months later she had her gallbladder removed; one year later she had a complete hysterectomy with the removal of both tubes and both ovaries; six months later she applied to the social service department for help because she was advised to have another operation for postoperative adhesions. She was referred to the gynecological

service for a pelvic examination and to my surprise I found a large ureteral calculus the size of a grape about one inch from the ureteral orifice of the bladder on the right side, easily palpated in the right parametrium. The calculus was removed by the genito-urinary service per vagina and the patient was dismissed from the hospital free of her pain in the right lower quadrant of the abdomen, which she had complained of for the past twenty months and for which pain she underwent the several operations mentioned above. However, she was extremely nervous and no doubt it will be many months before her neurological condition will return to normal.

In conclusion, I wish to urge that all cases of abdominal pain in women should be studied thoroughly and carefully and an attempt made to locate the exact cause of the trouble and likewise to disregard the old time forlorn expression used by many surgeons that he is going to perform an exploratory operation for pain in the abdomen. This is a plea for better diagnosis, followed by selected treatment for pain in the abdomen of women, and if such be followed I am quite sure many more women will be relieved of their complaints and far fewer women made neurotics.

411 Wall Building.

DISCUSSION

DR. W. C. GAYLER, St. Louis: The paper to which we have just listened was prepared under the most favorable circumstances. Acute abdominal pain does not belong to any one of the specialties, as we have no men who claim that all bellyaches come within their province. The friendly cooperation of the gynecologist, surgeon, urologist and internist, seems necessary to give these patients the best attention.

There is one serious drawback to Dr. Newell's paper, and that is the fact that he has attempted to cover so large a subject in such a short space of time. The subject would make a beautiful symposium, and two hours would be necessary for its proper rendition.

Extra-uterine pregnancy is the bugbear of all men who come in contact with acute abdominal conditions. It is always a very serious condition and mistakes in diagnosis probably average higher than 50 per cent. Since it is now customary to hospitalize all these patients, and since we can have blood transfusions at a moment's notice, the end results have very much improved. The early diagnosis, however, is still as imperfectly made as ever. The subject of this paper is "pain," and I wish, therefore, that I could make some rules in regard to the pain that usually accompanies extra-uterine pregnancy. Pain is present in some stages of most attacks, but it comes in such an erratic manner that it is impossible to establish any rules on the subject.

There is a certain type of pelvic abscess that calls for operation and there is another type in which operation is contraindicated, and the character of the pain is (among other things) of great help in distinguishing between the two. Acute pelvic abscess

of gonorrheal origin, with its exquisite pain, most certainly does not call for operation. Chronic abscess of gonorrheal origin, in the treatment of which milk injections have failed (as they often do) and which has its periods of exacerbations and its periods of quiescence, occasionally demands operation. Here we have a condition of partial invalidism extending over a period of years and the *character of the pain* finally helps us to determine whether to operate or not.

DR. H. J. SCHERCK, St. Louis: Permit me to congratulate the essayist on his most excellent paper. I know of no subject more confusing to the surgeon than pain in the abdomen. It embraces practically all abdominal surgery where a diagnosis should be made and for that reason no paper could possibly be more important than this one.

One type of pain has been of deep interest to me particularly since the meeting of the American Urological Association a year ago where I took issue with Dr. Hunner and his followers on the prevalence of urethral strictures as a cause of pain and subsequent treatment relating to them. I instigated a series of experiments at the hospital to ascertain as a matter of fact whether strictures of the ureters were of an organic character or temporary.

I have come to this conclusion,—without going into the details as to how I arrived at it because it would take too much time,—that the ureter has immense peristaltic power being perhaps as great as in any other tube in the body, and spasm of the ureter is common. A spasm can contract the ureter causing a dilatation above and below the constriction.

If a ureterogram is made and visualized one would at first glance diagnose it as ureteral stricture but if a series are taken you will find that constriction does not exist in the same place each time. I have ten or fifteen cases in which we have definite constrictions of the ureter at different points subsequent to injections of a solution impervious to the X-ray,—the Cunningham solution.

We know, for example, in those cases that come to the large hospitals with tremendously distended bladders from impervious strictures of the urethra, the bladders are so tense that the least pressure would cause a rupture and yet the ureters are empty postmortem. The peristalsis forces the urine below the sphincter in the end of the ureter and the urine cannot reflux. I have seen the abdomen opened and no diagnosis made. The case would be referred and we have definitely diagnosed spasm of the ureter, without stone, shower of crystals or what not that might cause them,—simply a spasm. So the point in the diagnosis, at least in many cases is to take a series of ureterograms and see whether or not the constriction is localized in the same place. I mention this as one of the many etiological factors in producing pain in the lower abdomen. Dr. Newell said ureteral complications cause pain in the ureter, but I don't recall that he mentioned the one I am stressing and I would like to add it to make his paper more complete and because I appreciated the rendition so thoroughly.

DR. HUDSON TALBOTT, St. Louis: Dr. Scherck mentioned a very valuable point and I rise to mention a condition or two that may also need consideration at times. He spoke of the pain in the left inguinal region and said the gallbladder might be considered with regard to pain in the right inguinal region but omitted saying it may be the cause of pain in the left.

Years ago a patient called on me with pain in the left inguinal region, pretty well in the pelvis. A tumor could be outlined by palpation. I studied the

case as thoroughly as I knew how and believed it to be a wandering gallbladder. I don't know that I have seen that term in print, but I gave it to that condition. I operated for a gallbladder condition and found a very long gallbladder containing 150 stones. That gallbladder was about six or eight inches long in the left false pelvis. There was a case of gallbladder in the left inguinal region.

I have heard of cases of appendicitis in the left inguinal region but I have not seen one. I have a patient now with a complete situs transversus, the heart being on the right side, the liver on the left, the spleen on the right, and I am persuaded, though we have not done a gastro-intestinal X-ray examination that, were he ever to undergo an appendix operation, it would be found in the left inguinal region.

DR. QUITMAN U. NEWELL, St. Louis, in closing: I just tried to mention those conditions we meet in everyday life. In teaching I always tell the young men to make an easy diagnosis and let the difficult things alone and nine times out of ten they will be right.

On extra-uterine pregnancy the discussion was wonderful. There is a pain at rupture, of course. That is due to a perforation and is a sharp pain. The pain I spoke of after the rupture is a dull aching pain that is common in the abdomen and is due to the irritation of the peritoneum as the result of free blood in the peritoneal cavity. It is a very good symptom and thought by many investigators to be an infallible diagnostic point, but I don't think so. When you get a painful abdomen and a tender cervix you have two very good symptoms but you have many other conditions to consider before you can diagnose the condition as extra-uterine pregnancy.

Milk injections in pelvic inflammation is an interesting topic and unfortunately time does not allow me to take up this discussion. Suffice it to say protein therapy has its place in gynecology and when properly used in selected cases the results are remarkable. The worst thing about it is what Dr. Gayler mentioned. It is rather a painful thing. I recall a symposium in which I was asked to take a part for discussion. One of our very capable gynecologists in St. Louis closed his discussion by saying, "Gentlemen, when I inject those women it makes them feel so good that every morning when I make the rounds of the wards they ask me 'when am I going to get another one?'" He claimed it was painless but as a matter of fact in my experience it causes the patient considerable pain at the site of injection. There is always a hyperemia and sometimes a chill and high rise of temperature. It is painful but they do well.

The ureteral strictures as cause of pain as mentioned by Dr. Scherck is a fact. We are all interested in these ureteral strictures whether they are due to the interference of the peristalsis of the ureter, or due to the blocking in the bladder that causes the stricture to be in different places, or whether from an outside source, as a parametritis causing an encroachment on the ureter, I am unable to state.

Regarding Dr. Talbott's discussion, any organ of the abdomen may be in the pelvis and cause pain. In this short paper I have tried to emphasize the conditions we meet in everyday examinations and have not discussed the unusual conditions.

TUBERCULOSIS IN ST. LOUIS

ANALYSIS OF DEATHS FOR 1927, WITH REFER-
ENCE TO AGE, COLOR, SEX AND TYPE OF
DISEASE

HOWARD H. BELL, M.D.

Tuberculosis Controller, Division of Health

ST. LOUIS

Every practicing physician in Missouri must of necessity be interested in tuberculosis because as an infectious disease it draws an annual death toll in the United States, barring pneumonia, three times that of the total from all other infectious diseases combined, including small-pox, scarlatina, chicken-pox, measles, mumps, diphtheria, bubonic or pneumonic plague, leprosy, etc.

Because of the chronicity and prevalence of tuberculosis we tend to become "numb" to alarm from its existence. Nevertheless, it killed 89,268 people in 1925, according to the mortality statistics for the registration area in continental United States, in comparison with 2 from bubonic and pneumonic plague, and 30 from leprosy, despite the fact that bubonic plague and leprosy have incited terror through all the ages. Because of its ubiquity, its chronicity, its protean manifestations, the age period of its prevalence, the stupendous economic cost, the medical and sociological factors, and the obscurity of the infection, tuberculosis remains the most highly technical and specialized problem in public health practice.

I fully realize the difficulty of making fig-

during 1927. They show the distribution of tuberculosis in 788 deaths—the total for 1927 being 790 deaths. This method of analysis is patterned after that used by the United States Bureau of Census and furnishes this information in brief form. It is not possible to compare these findings with similar ones from other cities, or even with St. Louis for preceding years, for I have not found such records to be available.

Similar tables are found in the United States census report for 1925, although in view of the rapid drop in death rate from tuberculosis no conclusion could be drawn from the comparison of such findings with ours for 1927.

Some idea of the rapid drop in death rate from tuberculosis will be obtained from the following:

St. Louis	1927	1926	1925	1924	1923	1922
Pulmonary	708	768	774	780	799	828
Extrapulmonary	82	78	73	96	91	113

The most outstanding fact in this analysis is the high death rate among negroes. This is shown in a most striking way in Table 3.

DEVELOPMENT OF CLINICAL OR ACTIVE
TUBERCULOSIS

That an original tuberculosis infection increases resistance to superinfection or reinfection cannot be denied. Observation on both human cases and on experimental animals permit no other decision. Man once infected shows some degree of increased resistance as long as the original infection persists. For example, if ten organisms are required to cause primary tuberculosis infection, it would

Table 3. Comparison of the death rate for negroes with that for whites shows that tuberculosis kills five negroes to one white.

Cases	1927, St. Louis		Population		
	Death rate	white	White, 749,000.	Colored, 90,000	
452	Death rate	colored	per 100,000 Population	Pulmonary	60.3
256	Death rate	white	per 100,000 Population	Pulmonary	284.4
38	Death rate	colored	per 100,000 Population	Extrapulmonary	5.0
44	Death rate	white	per 100,000 Population	Extrapulmonary	48.8
490	Death rate	colored	per 100,000 Population	All forms	65.4
300	Death rate	white and colored	per 100,000 Population	All forms	333.3
708	Death rate	white and colored	per 100,000 Population	Pulmonary	84.4
82	Death rate	white and colored	per 100,000 Population	Extrapulmonary	9.7
790	Death rate	white and colored	per 100,000 Population	All forms	94.1

ures and tables interesting. Still, a glimpse of the following tables gives a bird's-eye view in brevity of just what is going on in the City of St. Louis and they are well worth study from an educational point of view. Following the recommendation of the National Tuberculosis Association in regard to such analysis, and the practice of the United States Bureau of Census, you will note in Table 1 and Table 2 the type of tuberculosis draining St. Louis of its young manhood and womanhood.

These tables were compiled from the certificates of death from tuberculosis in St. Louis

in turn require more than ten organisms to cause supertuberculous infection. This fact can be demonstrated by actually counting the organisms for experimental animals. It is furthermore generally accepted that the reaction of the tissues to tuberculous infection is modified by the existence of the primary infection causing an allergic state. This modified reaction or allergic state leads to overcoming the newly introduced tubercle bacilli, or, if superinfection actually takes place, may lead to necrosis at the site of the superinfection.

It is only fair to assume that most of us receive a first infection from tubercle bacilli of quantity and virulence that we hold in check or completely overcome. There is no doubt that many first infections are of limited duration, caused by few germs which are in turn overcome and leave the body free from tuberculosis. Dr. Lindsay Williams¹ considers that 90 per cent. of adults in civilized urban communities have at one time or another received at least a primary infection with *B. tuberculosis*.

AGE INCIDENCE OF TUBERCULOSIS

This subject has been excellently discussed by Krause under the title "Human Resistance to Tuberculosis at Different Ages."² Adults are more resistant to tuberculosis only because they are more tuberculous.

That heredity has its influence on the occurrence of tuberculosis is rather well fixed in the mind of laymen. Nevertheless, one cannot deny that through heredity the child's immediate station in life is established with its degree of poverty, its relative malnutrition, and very often its necessity for early employment during periods of physical growth, all of which modifies the soil for the invasion by *B. tuberculosis*. Still, these influences cannot be looked upon in the sense of true heredity; so much more do these influences figure when children are born to parents suffering from open pulmonary tuberculosis, for this disease occurs 6 to 9 times more frequently in homes with open cases than in homes of healthy families. It becomes therefore purely a matter of environment and not a matter of heredity for the white race. It has been amply shown that it is the droplet infection from open cases that spreads tuberculosis in the home. These facts have been so fully appreciated by the officials of Chicago that a law enacted reads as follows:

No child under the age of sixteen years of age shall live in the same home, apartment or other place of abode or habitation occupied by a person suffering from active or open pulmonary tuberculosis (consumption).

The age occurrence in relation to age death rate has been an inexhaustible subject for students of tuberculosis. Children offer new soil, nevertheless they show fewer infections, no doubt because of less extensive exposure. Adults have greater exposure and at the same time use more bodily energy to the point of fatigue, thus explaining the higher incidence in adults. It has been well stated that, "We would not minimize the influence of overstrain; it is, we believe, the most potent imme-

diately contributing factor in the origin and development of active tuberculosis."

One cannot dispute that the age of infection is a factor for Hempelmann³ has shown that 78.7 per cent. of children so infected in the first year of life died from tuberculosis within a year following diagnosis. In a series of 130 cases with pulmonary tuberculosis under two years of age Hempelmann showed a mortality of 68 per cent. although some of the children were living after 4 or 5 years. Early infection so often comes from an open case saturating the atmosphere in the home with frequent and large doses of tubercle bacilli that I am inclined to attribute the high infant mortality to this fact rather than to the decreased resistance of the child. Also one must always bear in mind that the acute exanthema to aid in the development of clinical tuberculosis in young children.

SEX INCIDENCE OF TUBERCULOSIS

Drolet,⁴ in his review of mortality from tuberculosis in New York City for the last quarter century, has found that the mortality decline has been greater among children than among adults. "Tuberculous cripples, hunchbacks, and children with neck scarred from adenitis are becoming a relative rarity in New York City. . . . In children under five the tuberculosis death rate each year in New York City is practically always higher among boys than girls. . . . But between the ages of five and ten . . . the rate . . . is generally about the same in both. . . . Among girls between 10 and 15 the rate is greater among girls than boys. . . . The greater strain attendant to the development of puberty must of course be responsible among the girls and once more, at least in approaching adult life, we see the common result of tuberculosis hatching out whenever too great a strain is put on certain individuals' resistance."

Boys on the other hand will reach a period of greater stress when they go out to work or enter industry a few years later and show then a corresponding rise in death rate which exceeds that of women for similar ages.

BOVINE TYPE IN HUMANS

It is exceedingly difficult to estimate the extent of bovine type of infection occurring in human beings. The studies of Park and Krumwiede are very instructive in this connection. They found in a series of cases that from birth to six years 73.5 per cent. were from the human type of bacillus and 26.5 per cent. from the bovine type of bacillus; from

1. Williams, Lindsay: *Am. Rev. Tuberc.* 18:249, 1928.

2. Krause, A. K.: *Am. Rev. Tuberc.* 11:303, 1925.

3. Hempelmann, T. C.: *Am. Rev. Tuberc.* 1:99, 1917.

4. Drolet, G. J.: *Am. Rev. Tuberc.* 11:292, 1925.

6 to 16 years 75 per cent. were from human bacillus and 25 per cent. from bovine bacillus; over 16 years 98.7 per cent. were from the human bacillus and 1.3 per cent. from the bovine bacillus. Fifty per cent. of bovine infections occurred in children under five years of age which stresses the danger of infected milk for children. In England, Cobbett estimates that 6 per cent. of all deaths from tuberculosis are from the bovine type of bacillus. It is of great significance that many large cities now require milk to come from tuberculin tested cattle.

FURTHER PREVENTION AND CONTROL OF TUBERCULOSIS

Early diagnosis is the key to the tuberculosis problem. I feel that too little attention is paid to complaints of "pains in the chest," or pleurisy, the cough "that hangs on," and the "spitting of blood," any one of which indicates the need of an X-ray examination and observation of the patient for a considerable period of time. It may be possible that the use of Bacillus-Calmette-Guérin (B. C. B.) will be of great aid in controlling this disease.

When once ill from active tuberculosis there are two main great objectives. The one is to prevent giving the disease to another, and the other objective is to recover. Delay in diagnosis keeps the patient in the sanatorium just that much longer and renders recovery less certain.

435 University Club Building.

LEVERAGE FORCEPS FOR FRACTURES OF THE LEG

A NEW FORCEPS FOR ATTAINING AND MAINTAINING POSITION WHILE APPLYING PLASTER CAST

EDWARD P. HELLER, M.D.

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For nearly two years, on numerous occasions, I have used a forceps which I had made over by a local instrument house. The instrument was originally a Simpson obstetric forceps. Feeling the need of better means of support for the upper end of the lower fragment in fractures below the middle of the tibia, I conceived the idea of having the blades fashioned in such a manner as to fit snugly about the average lower leg, thus allowing upward traction by means of the handles with the assistant well out of the way during the application of the plaster cast.

Figures 1 and 2 illustrate the forceps well. It may readily be seen that in applying and removing the blades a semicircular arc is followed

instead of the long curve used in applying and removing ordinary obstetric forceps. Furthermore, this instrument may be applied through a window to a leg already casted, and in this manner be used to correct a minor angulation or displacement which might otherwise require



27.5 cm.
Fig. 1

removal of the entire cast. That it might be useful for other fractures than those of the leg I have no doubt although I personally have not tried it.

Figure 3 illustrates a technic for reduction and retention of fractures of the leg. "A" illustrates the ideal to be attained. "B" shows the usual displacement of the lower fragment of the tibia and indicates the difficulty encountered in maintaining dorsal flexion of the foot while reduction of the fracture is simultaneously accomplished. "C" illustrates the method of exerting traction by means of a shoe top or specially fitted leather anklet, and

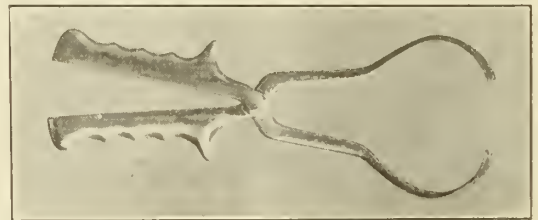


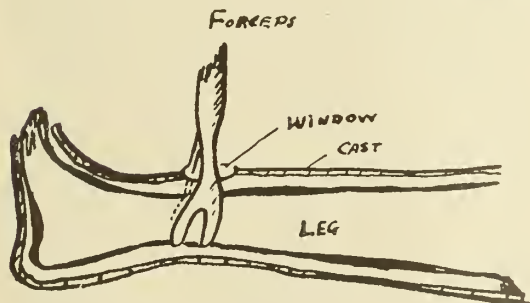
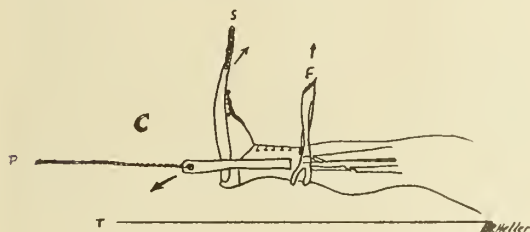
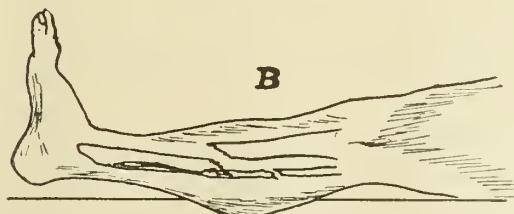
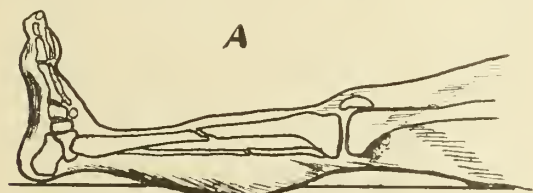
Fig. 2

also shows the approximate position of the forceps applied over the stockinette and wadding. The arrows illustrate the directions of traction (p), suspension (s), and leverage (f). "D" illustrates the forceps in situ with cast windowed about the forceps preparatory to their removal. To remove, all that is necessary is to cut a window 5 cm. square about the blades, unlock them, and remove one at a time through a semicircular arc. If the nickel is intact the removal is invariably smooth, while if there are any rough surfaces due to adherent plaster or to rust the most that can happen is the withdrawal of flakes of the sheet wadding.

Figure 4 illustrates one of the accessory uses of the forceps. "A" is a tracing of a roentgenogram taken in a case where reduction was not entirely satisfactory. The plaster on the posterior aspect of the leg is not shown. "P" represents the thickness of the cast anteriorly. "B" delineates the passage of

a sling under the upper end of the lower fragment,—as done in this particular case. This maneuver is accomplished by doubling a yard of 3-inch adhesive back on itself except for about 1 inch. This inch of free, single thickness adhesive is attached to a blade of the forceps, as shown, and passed around the leg in the direction of the arrow, a window of suitable size having first been cut. "C" illustrates the sling in place. The protruding ends are pinned together beneath the cast, or attached to the cast with adhesive, after they have served as boot straps, as it were.

To accomplish its full purpose the forceps blades need not necessarily come together be-



D

Fig. 3

Due care should always be taken to see that unnecessary pressure is not made against the instep. To preclude such an event, abundant sheet wadding should always be applied over the instep before the plaster bandaging is begun.

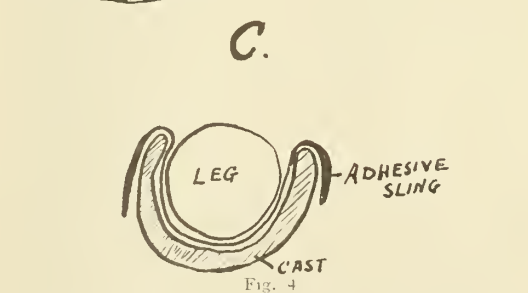
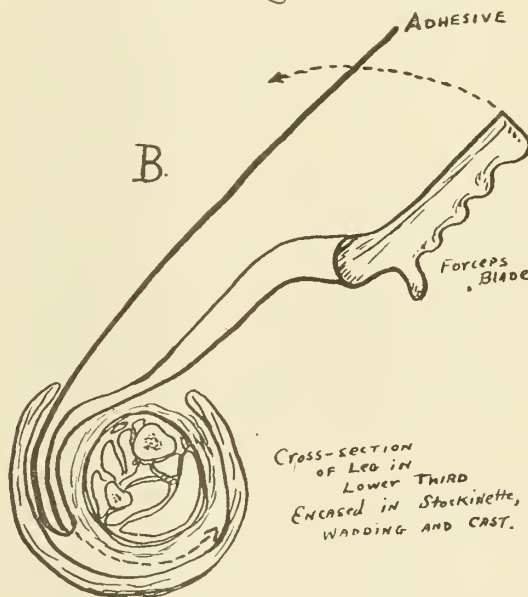
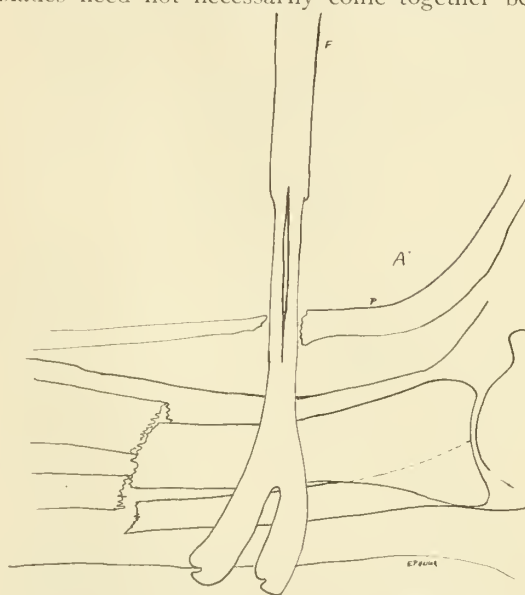


Fig. 4

neath the leg. Separated as widely as shown in Figure 2, they serve well during the short time they need to be in position. It is my habit to remove them as soon as roentgenograms have been taken and position is deemed satisfactory.

THE JOURNAL

OF THE

Missouri State Medical Association

DECEMBER, 1928

EDITORIALS

THE PRESS AND MEDICAL NEWS

The influence of the press upon the public mind is never greater than when medical subjects are published. There are those whose belief in the news reports is so strong that nothing can shake their immutability; thus, given the receptive mind and given its proper object, the natural result is a fixation which can not be jarred by even the most evident of contrary facts.

The influence of the press in molding public opinion creates a responsibility to the public which it cannot avoid if it would. Nothing is more sacred than the responsibility arising out of profound trust and sincere belief. This trust in someone or something is after all the motive force which governs the actions of members of society. A failure on the part of the press to recognize its responsibilities in this direction renders it liable to severe criticism, not to say condemnation.

Medical facts come under the head of news and as such must be reported to the public. The eager, unthinking public, ever ready to seize upon new suggestions, is particularly impressed by the new in medicine. The truth or falsity of a claim is rarely considered by these avid ones, who are content that it wear the shining crown of novelty. They swallow and assimilate with little conscious effort this great bolus of medical food. There is never the slightest suggestion of a dysphagia.

To protect these earnest souls from their own credulity, to save them from the pursuit of a fanciful ephemeral medical idea, to make them more careful in their selection and ingestion of medical food, and last but not least, to protect the physician from the onslaught of these factual minds, who would know the truth hidden away in the core of this new idea, would know the clinical application of the discovery and would particularly know whether or not it can be applied in their own family or their own cases, we would suggest that the press publish, in addition to the news item, an editorial comment describing the true status of any medical discovery.

The simplicity of this is obvious, the value would be widespread, and the item would lose

none of its news value. Proper cooperation between medical societies and the press would result in the securing by the press of satisfactory and adequate information. Reliable sources should be used by those in charge of newspapers to the end that the truth of modern medical thought might be disseminated instead of a garbled report, or only the half truth, which may do incalculable harm. Editorial comment would then become a force for good in the community and the much harassed physicians perhaps saved for other purposes than to answer questions engendered by incomplete and at times totally fallacious news reports.

A start in this direction has been made by some of the newspapers in St. Louis which have been cooperating with the medical society to publish reliable editorial comments. We have no doubt that this is also being done in other communities; however, we feel that it should become general and it is with the hope that we can stimulate interest in this subject among the newspapers and among the medical organizations that we comment upon it at this time.

TRAVELING EXPENSES ARE DEDUCTIBLE

Physicians, in computing federal income taxes, may deduct traveling expenses incurred in attending meetings of medical associations, according to a decision of the Board of Tax Appeals handed down in the appeal of Dr. Cecil M. Jack, Decatur, Illinois, on October 7. The decision becomes final six months from that date unless the Commissioner of Internal Revenue sees fit to appeal to the courts. In essentially identical cases, when the board rendered similar decisions in favor of ministers and chemists, the commissioner officially acquiesced without waiting for the six months to expire. These very cases were cited as precedents by the board. It repudiated as a precedent another of its decisions, whereby the commissioner had undertaken to justify his ruling that physicians' traveling expenses were not deductible. The board pointed out that in that case it upheld the commissioner on the grounds that the physician had failed to submit proof of expenditure.

There is no apparent reason why the commissioner should appeal this decision. It appears that such appeal would only thrust one more case upon the courts at the expense of the government and, pending court decision, force physicians to make thousands more of unlawfully exacted payments, besides the tens of thousands already made.

"Since the Commissioner of Internal Revenue first denied to physicians their right to deduct traveling expenses in 1922," comments the *Journal of the American Medical Association*, "the medical profession has paid probably as much as a half million dollars into the treasury to avoid unlawful demands by the commissioner, the distraint of property, and suits. Subject to certain limitations on the time within which claims for refunds must be filed all of this money will be repayable to the physician who paid it, if the courts are not called on within six months to reverse the decision of the Board of Tax Appeals and if on appeal they sustain the decision of the board.

"Applications for refunds may be filed without waiting for any further official action in the case. Claims for refunds for the tax years 1924 and 1925 must be made within four years from the date of payment; for the tax years 1926 and 1927, within three years; for the tax year 1928, within two years. Unfortunately, in many individual cases the amounts repayable are probably so small that the physician will not feel justified in going to the trouble and expense of making a claim, and in many cases it will be difficult at this late date to produce adequate legal proof of the exact amounts paid for railroad fares, Pullman accommodations, hotel accommodations, meals, and other allowable expenses. Applications for refunds must be made on the special form provided for that purpose, copies of which can be obtained from the local collector of internal revenue. A separate application must be made for each year for which a refund is claimed. Every application must show that it is based on the decision of the Board of Tax Appeals in *Jack v. Commissioner of Internal Revenue*. Applications must be filed with the collector of internal revenue within whose district the refundable money was paid."

CHASING THE AMBULANCE CHASER

A movement of interest to medical bodies everywhere is afoot in New York City where the New York County Medical Society and the New York Academy of Medicine are considering a suggestion of the New York City Bar Association to cooperate in chasing ambulance chasers. As pointed out before in these columns the ambulance chasing lawyer is helpless unless abetted by an ambulance chasing doctor. New York organizations of attorneys already have moved to rid their profession of its ambulance chasers and now are offering their assistance along with that of the Association of Grand Jurors and the Citizen's Committee against Fraudulent Claims to the medical profession to clean house.

This is a step which cannot be commended too highly. It is a work which we judge can best be carried on as a joint undertaking by medical and legal organizations. Wherever an ambulance chasing lawyer is uncovered an ambulance chasing doctor must by the nature of their shoddy procedure, be found lurking in the adjacent bushes. When the investigators get to the lawyer they have done more than half the work of scaring out the doctor. The only thing then needful is the cooperation of

organized physicians to take proper steps against him. In many cases these steps can go as far as the revocation of license to practice, for the gentlemen who use their licenses fraudulently will often be found to have practiced fraud in obtaining them. And beyond that there are the perjury laws.

It seems unnecessary to argue the desirability of driving these vermin from the profession. Nothing is much more humiliating than the fact that a few men, who put the same letters after their names that we do, are notorious perjurers and swindlers. The New York movement is one to be watched with deepest interest by physicians in Missouri and elsewhere. We may find it fitting to consider whether we could not well use the same broom to sweep our own doorsteps.

TIPSTERS DEFRAUD DOCTORS

THE JOURNAL has been advised by the Better Business Bureau of St. Louis that the financial faker is again abroad in Missouri and warns physicians against the traps set by these fake concerns. Any physician approached on the proposition mentioned below should write the Better Business Bureau at St. Louis or Kansas City and make a report. The Bureau's report follows:

The Better Business Bureau of St. Louis has received a number of inquiries from physicians in Missouri who have sent market advisory publications, followed by telegrams and long distance telephone calls from a tipster publication in Detroit, Michigan. The doctors are asked to buy stock of the Curtis Wright Aeronautical Corporation in Michigan and report to the Bureau that they were confused by long distance telephone calls, and led to believe that the Curtis Wright Aeronautical Corporation was connected with the old established Wright Aeronautical Corporation located in New Jersey and the Curtis Airplane Company.

Tipsters operate in this manner: The publisher interests himself in a stock issue; often by obtaining an option upon all of the unissued stock at a very low price. Then he buys and sells to himself until he has created a fictitious "over the counter" market. He reaches his victims by offering a financial advisory service claimed to be worth from \$60 to \$200 a year on one or two months trial for a nominal sum, usually \$1. If you subscribe, you receive market information and a "tipster sheet" that touts the security in which the publisher is interested. After you have had time to absorb some of the "bunk" published about this pet stock, the publisher wires you to buy, giving as the reason that the stock is certain to go up. Then he wires again, and in many cases telephones long distance advising you to purchase stock in his pet company immediately. The call is usually an impressive one. The "dynamiter" is a good talker and his voice is honeyed with confidential phrases.

This you should know—There are many tipsters abroad in the land. Many of these alleged "editors" are ex-bucket shop operators who have originated this new swindle to trap unwary investors. The day you receive your long distance 'phone call from "Editor Brown," for example, there are probably

fifty "Editor Browns" working out of the concerns "Boiler Room" calling investors in all parts of the country.

The stocks sold by these tipster sheet publishers sometimes go up as promised but only for the purpose of inducing you to buy more. When you try to cash in, the market is gone.

MISSOURI BAPTIST HOSPITAL

This is the new name of the Missouri Baptist Sanitarium. The change in the name was decided and voted on at the October annual meeting of the Board of Managers.

The hospital, established in 1890, has made great progress in the last few years and has become one of the outstanding hospitals in the state. It has a capacity of 400 beds at the present time and has under erection a 100-bed addition which will be opened about May 1, 1929. The new addition will be known as the Bone and Joint Surgery Department, furnished and equipped especially for all kinds of orthopedic cases. A complete physical therapy department will be installed, also increased laboratory, metabolic and radiocardiograph facilities. When the new addition is completed the hospital will have a capacity of 500 beds with three X-ray machines, about twenty operating rooms and every other facility for the examination and treatment of all cases that may come to the hospital.

Physicians are cordially invited to visit the hospital and see any of the work done when they can spare the time to leave home for a few days or longer. The great number of patients treated will afford a splendid opportunity for the observation of many interesting cases.

Dr. B. A. Wilkes, Superintendent, has been connected with the hospital for thirty-two years and twice its superintendent. His second appointment was made eight years ago and in that time he has accomplished much toward making it a first-class institution.

TO STUDY HUMAN BEHAVIOR

Establishment of the American Foundation for Mental Hygiene as the first foundation for the exclusive purpose of financing the gathering an application of knowledge of mental processes and the controlling forces of human behavior was announced November 9 at the Nineteenth Annual Meeting of the National Committee for Mental Hygiene in New York. The foundation begins its work with a gift of \$50,000 from the estate of the late Mrs. John I. Kane and a pledge of \$100,000 toward its first million dollars of endowment. The initial step toward realization of the object of the foundation was to guarantee the basic expenses of the First International Congress on

Mental Hygiene to be held at Washington, D. C., in May, 1930, plans for which were announced to the committee. Out of the Congress is expected to come an international committee with headquarters in the United States. It will act as a clearing house for information on all phases of the subject and will be the coordinating mechanism for the development of the work in all countries.

The growth of this movement since it was started twenty years ago by Clifford W. Beers, the present secretary of the National Committee for Mental Hygiene, after he had spent three years as a patient in various institutions for the insane, has been phenomenal. Committees, leagues, councils and societies for mental hygiene have been or are being established in twenty-one countries besides the United States and Canada. Probably all the larger countries will have such agencies to represent them at the date of the First International Congress.

SOUTHWEST MISSOURI MEDICAL SOCIETY

The Fifty-Fourth Annual Meeting of the Southwest Missouri Medical Society closed one of the most successful meetings in its history at Springfield, November 2, 1928. Dr. J. H. Wade, Ozark, President, presided. Among the distinguished guests the society had the privilege and honor of entertaining, and whose presence contributed much to the success of the occasion, were: Dr. Frank I. Ridge, Kansas City, President Missouri State Medical Association; Dr. E. J. Goodwin, St. Louis, Secretary Missouri State Medical Association; four ex-presidents of the State Association, viz., Dr. A. R. McComas, Surgeon; Dr. Emmett P. North, St. Louis; Dr. Wm. H. Breuer, St. James; Dr. Frank G. Nifong, Columbia.

We heard many expressions of regret that Dr. T. W. Cotton, Van Buren, an active member of the Society for many years, and President-Elect of the State Association, was unable to attend the meeting on account of unfavorable weather conditions.

A most enjoyable feature of the meeting was a banquet at the Kentwood Arms Hotel, for which ninety covers were laid. Interesting and timely talks were made by the president, secretary and four ex-presidents of the Association, after which the Society was especially favored with an eloquent and pleasing after-dinner address by Dr. J. Curtis Lyter, St. Louis, on "The Charms of the Ozark Region."

The unusual interest manifested in the scien-

tific program was doubtless due in great measure to the excellence of the discourses delivered by visitors from outside the district, sponsored by the Committee on Postgraduate Course of the State Association. The subjects included: "The Pathological Physiology of Congestive Heart Failure," Dr. J. Curtis Lyter, St. Louis; "The Thyroid in Relation to Heart Disease," Dr. Alphonse McMahon, St. Louis; "Primary Plastic Reconstruction of the Lower Lip Following Extensive Removal of Carcinoma," Dr. Frank J. Tainter, St. Louis; "The Rationale Non-Drainage in Acute Appendicitis," Dr. H. J. McKenna, Kansas City; "The Symptoms, Pathology and Treatment of Cardio-Vascular Syphilis," Dr. Frank I. Ridge, Kansas City.

Other papers on the program of unusual interest were: "Lung Abscess," Dr. E. E. Glenn, Mt. Vernon; "Bronchiectasis," Dr. W. J. Bryan, Mt. Vernon; "Intestinal Tuberculosis," Dr. B. J. McGinnis, Mt. Vernon. All of these essayists are on the resident hospital staff of the Missouri State Sanatorium for the Treatment of Incipient Tuberculosis, Mt. Vernon.

The program of November 3 included the following papers: "Pyelitis During Pregnancy," Dr. Will J. Wills, Springfield; "The Management of Industrial Eye Injuries," Dr. W. C. Cheek, Springfield; "Metastatic Manifestation of Gonorrheal Infection in Ophthalmia Neonatorum" (Case Report), Dr. John S. Sayers, Springfield; "Protein Sensitization in Urticaria, Hay-Fever and Asthma," Dr. Otto C. Horst, Springfield; "Ulcerative Colitis," Dr. W. R. Beatie, Springfield.

The officers elected for the ensuing year are: President, Wilbur Smith, Springfield; first vice president, Arthur D. Knabb, Springfield; second vice president, J. C. B. Davis, Willow Springs; recording secretary, W. R. Beatie, Springfield, reelected; treasurer, Lee Cox, Springfield; corresponding secretary, Joseph W. Love, Springfield.

ASHEVILLE MEETING OF THE SOUTHERN MEDICAL ASSOCIATION

Thirty-two Missouri physicians attended the Twenty-Second Annual Meeting of the Southern Medical Association at Asheville, North Carolina, November 12-15, 1928, and no less than eighteen of them had prominent places on the program. Dr. Evarts A. Graham, St. Louis, was chairman of the section on surgery and delivered an address on "The Uses and Abuses of Cholecystography." Dr. McKim Marriott, St. Louis, Dean of Washington University School of Medicine and Missouri Councilor of the Association, shared

honors with Dr. Lewellys F. Barker, of the Johns Hopkins University School of Medicine, Baltimore, and Dr. James S. McLester, of the University of Alabama School of Medicine, Birmingham, in a symposium on "What Constitutes a Desirable Medical Teacher?" read before the section on medical education. Dr. D. K. Rose, St. Louis, contributed stimulating and instructive comment to the discussions of the urology section. Outstanding among the scientific exhibits were the wax models demonstrating Dr. Vilray P. Blair's unique work in reconstructive surgery, and Dr. C. C. Dennie's highly instructive exhibit on venereal diseases.

In addition to the daily general sessions there were the meetings of the seventeen sections, the Woman's Auxiliary, the National Malaria Committee, and the Fourteenth Annual Meeting of the Women Physicians of the Southern Medical Association. Sessions were held in the Asheville Club for Women, the City Auditorium, George Vanderbilt Hotel, Battery Park Hotel, and the newly constructed Tyler Building where the scientific and sixty-two technical exhibits were housed.

This was the second time the Association has met in Asheville—the first was in November, 1919—and the traditional hospitality of the South again was gratifyingly displayed. Lunches, teas, bridge parties, trap shooting, golf, and drives through scenes of mountainous, autumnal grandeur were among the numerous entertainment features. A number of valuable trophies were won in various tournaments. Alumni banquets were well attended.

While by far the greater number of visitors naturally were from the Southern states representing the component membership of the Association, there were quite a number of most interesting papers presented by men from the large Eastern and Northern clinical centers, one of the most notable being that of Dr. George E. Vincent, New York City, President of the Rockefeller Foundation. His title, "The Doctor and the Changing Order," being a subject of public as well as professional interest the meeting was largely attended by others than physicians.

Missouri, particularly St. Louis, was well represented. The following appeared on the program and in the discussions of the different sections: Drs. Millard F. Arbuckle, Vilray P. Blair, M. A. Bliss, Martin F. Engman, W. G. Gamble, Frank D. Gorham, Evarts A. Graham, A. F. Hartmann, J. Albert Key, McKim Marriott, Hugh McCulloch, William L. Nelson, Quitman U. Newell, D. K. Rose, Sidney I. Schwab, Elsworth Smith, Meyer Wiener, of St. Louis; Dr. Richard Paddock, Clayton. Others registered from St. Louis were:

Drs. Walter Baumgarten, J. B. Brown, Daniel L. Sexton, I. R. Wagner, John Zahorsky, Drew W. Luten and C. V. Mosby. Others registered from Missouri were: Drs. C. C. Dennie, Rex L. Diveley, Nelse F. Ockerblad, Clinton K. Smith, of Kansas City; Dr. L. E. Cooper, Cooter; Dr. B. A. Dumbauld, Webb City; Dr. W. S. Petty, Caruthersville. A number of physicians were unavoidably and regrettably unable to attend.

Dr. Paul H. Ringer, Asheville, chairman of the committee on arrangements, is to be highly complimented upon the skilful manner in which he fulfilled his task.

The newly elected officers follow: President, Dr. Thomas W. Moore, Huntington, West Virginia; first vice president, Dr. Paul H. Ringer, Asheville, North Carolina; second vice president, Dr. F. J. Underwood, Jackson, Mississippi, Health Officer of Mississippi; secretary-manager, Mr. C. P. Loran, Birmingham, reelected; editor, Southern Medical Journal, Dr. M. Y. Dabney, Birmingham, reelected.

NEWS NOTES

The State Board of Health examined about thirty applicants to practice medicine at its meeting held in St. Louis, October 23, 1928.

The Missouri Baptist Sanitarium, St. Louis, changed its name to Missouri Baptist Hospital October 4, when the corner stone was laid for a \$300,000 addition to the hospital. The addition will provide 100 beds.

Drs. Frank Johnson Hall and Robert Koritschoner, Kansas City, have become associated in the direction of the Laboratory of Clinical Pathology with offices at 1036 Argyle Building, Kansas City.

Dr. E. H. Kessler, St. Louis, one of the pioneers in roentgenology in Missouri who retired from active practice some months ago on account of illness, has reopened his office and will again confine his practice to roentgenology. On December 1 he will be located in a suite of offices in the South Side National Bank Building.

Dr. George Clark Mosher, Kansas City, has been elected a life member of the Toledo Academy of Medicine, the Cincinnati Obstetrical Society and the Louisville Obstetrical Society. He has delivered addresses before all of these societies.

The United States Civil Service Commission announces open competitive examination for a

cytologist. Applications must be on file with the Civil Service Commission at Washington, D. C., not later than November 28. The examination is to fill a vacancy in the Hygienic Laboratory, United States Public Health Service, Washington, D. C., and vacancies occurring in positions requiring similar qualifications. Competitors will not be required to report for examination at any place but will be rated on their education, training and experience. Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or at the post-office or custom-house in any city.

The next Congress of the Pan-American Medical Association will be held in Havana, Cuba, December 29, 1928, to January 3, 1929. The program, arranged by the President, Dr. Fred H. Albee, New York City, will include four orations upon the subjects of surgery, medicine, pediatrics, and tropical medicine. Papers will be read in both Spanish and English. The meeting will be representative of the medical profession of the entire Western Hemisphere. Chapters of the Association have been and are being organized in various centers of North America and Central America as well as in the Antilles, all of which will be represented at the Congress. One of the recent accomplishments of the Association is the establishment of the Pan-American Hospital in New York City for the benefit of the Latin-speaking people.

The American Board of Otolaryngology held an examination in New York City, October 11, 1928. One hundred and thirty applicants were examined, of which number one hundred and thirteen were passed. Another examination was held in St. Louis, October 15, 1928, during the meeting of the American Academy of Ophthalmology and Otolaryngology. At this session seventy-nine applicants were examined, of which sixty-eight were passed. The next meeting of the Board for the examination of applicants will be held at Portland, Oregon, July 8, 1929, during the session of the American Medical Association, and at Philadelphia in October, 1929, preceding the meeting of the American Academy of Ophthalmology and Otolaryngology in Atlantic City. Those desiring information relative to these examinations may communicate with Dr. W. P. Wherry, Secretary, Board of Otolaryngology, 1500 Medical Arts Building, Omaha, Nebraska.

Dr. Frederick A. Jostes, St. Louis, resigned November 1 as director of the Missouri State Crippled Children's Service and Professor of

Orthopedic Surgery in the University of Missouri. He will be succeeded by Dr. G. Kenneth Coonse, Newton, Massachusetts. Dr. Jostes intends reentering private practice in St. Louis and Columbia. He was appointed to open the state clinic in July, 1927. He then was connected with Washington University School of Medicine and had been resident surgeon of the Shriners' Hospital for Crippled Children in St. Louis for one year, a position which he left for study of orthopedic clinics in the East and in Europe.

Dr. Coonse, a graduate of Leland Stanford and Harvard Medical Schools, occupied the chair of orthopedics at Newton Hospital and was on the staff of the Children's Hospital in Boston.

The following articles have been accepted for New and Nonofficial remedies:

Abbott Laboratories

Capsules Ephedrine Hydrochloride—Abbott,
 $\frac{3}{8}$ grain

Lederle Antitoxin Laboratories

Tablets Whole Ovary—Lederle, 2 $\frac{1}{2}$ grains
Eli Lilly & Co.

Antimeningococcic Serum Concentrated—
Lilly

Antistreptococcic Serum, Purified and Concentrated (Lilly)

Mallinckrodt Chemical Works

Iso-Iodeikon

Merck & Co., Inc.

Optochin Base

Optochin Hydrochloride

H. K. Mulford Co.

Mulford's Acidophilus Bacillus Blocks

Tetanus Antitoxin (Bovine)

Parke, Davis & Co.

Capsules Ephedrine Sulphate—P. D. & Co.,
 $\frac{3}{8}$ grain

Capsules Ovarian Substance, Desiccated—
P. D. & Co., 5 grains

E. R. Squibb & Sons

Tablets Protargentum—Squibb, 4.6 grains

Tablets Solargentum—Squibb, 4.6 grains

Swan-Myers Co.

Syrup Ephedrine Hydrochloride (Double
Strength)—Swan-Meyers

Nonproprietary Articles

Ethylhydrocupreine

Phentetiothalein Sodium

Dr. T. P. Dunhill, associate director of surgery in St. Bartholomew's Hospital, London, and surgeon to the household of King George, renewed war time acquaintance with Drs. Malvern B. Clopton, Warren R. Rainey, Walter Fischel, Joseph W. Larimore and other St. Louis physicians late in October. He was ac-

companied on his visit to St. Louis by Dr. Geoffrey Keynes, of Bartholomew's. The fine university group and whole-souled enthusiasm for medical research in St. Louis made a profound impression upon Dr. Dunhill, who said that the gallbladder research of Dr. Evarts Graham was the outstanding piece of medical work in this generation and called for the everlasting gratitude of the profession and patients everywhere. "My visit to St. Louis is the fulfillment of a desire conceived during the war, when I became intimately acquainted with St. Louis physicians and surgeons in France, and was so impressed with their extreme cordiality, high purpose and efficient performance," Dr. Dunhill explained. "I determined then some day to meet them in their own hospitals and observe their work at home, and for that purpose I have come to America.

"Each man, apart from his routine work of caring for the sick, is absorbed in some special problem for the advancement of medical knowledge. Of course such research work is going on in many other institutions, but I find it carried on in St. Louis in a degree that I have never observed elsewhere."

The dedication of the Medical Center, New York City, took place Friday, October 12, 1928, before a large gathering of persons who have been interested in the project from its inception eighteen years ago. Since the breaking of ground nearly four years ago skyscraper buildings have been constructed on this site until now the following hospital and clinic facilities are available at the Medical Center:



The Stephen V. Harkness Pavilion for private patients is in complete operation. All the services of the Presbyterian Hospital are in full operation, including the newly organized Squier Clinic which is the department of urology. Pending removal of the Babies' Hospital to the Medical Center, a modest pediatric

service is being operated by the Presbyterian Hospital. The Sloane Hospital for Women is open, private patients being cared for in specially adapted floors of the Harkness Pavilion. All branches of the Vanderbilt Clinic, representing medicine and surgery and their several specialties, are in full operation. The clinics of the School of Dental and Oral Surgery have been recently opened. The Neurological Institute and the Babies' Hospital will remove to the Center in several months and then all of the pediatric and neurological services at the Medical Center will come under the direction of these two institutions. The New York State Psychiatric Institute and Hospital will move to the Center when its new building is completed in 1929.

OBITUARY



ENOCH HUTCHISON MILLER, M.D.

LIBERTY, MO.

1851—1928

Dr. Enoch H. Miller, Liberty, a graduate of Missouri Medical College (now Washington University School of Medicine), St. Louis, 1874, died at his home October 7, 1928; aged 77.

Dr. Miller, President of the Missouri State Medical Association in 1913, was widely known throughout the state as a physician and surgeon and was loved, honored and esteemed by all who knew him. He was the son of

Madison Miller, the first mayor of Liberty and one of the original trustees of William Jewell College. For thirty years Dr. Miller was a member of the Liberty Board of Education. He was well known in Kansas City where he served on the staff of Research Hospital. He took an active interest in the welfare of the county and state medical organizations and was always ready to serve in any capacity that would promote the influence of the societies.

Dr. Miller early in his career identified himself with the medical organization in Clay County and took an active part in the work of that Society and of the State Medical Association as it was composed in the period before reorganization on the present plan in 1903. When the new Constitution and By-Laws for the State Medical Association was adopted in 1903, Dr. Miller was elected the first councilor for the 3d District which was then composed of the counties of Clay, Ray, Platte, Clinton, Caldwell, Dekalb, Gentry, Harrison, Worth and Daviess. The districts were changed in 1906, the 3d District being made the 12th District and composed of the counties of Platte, Clay, Ray, Clinton, Caldwell and Daviess. He held this office until 1910 when he resigned and was succeeded by Dr. C. M. McConkey, Lathrop. Dr. Miller was a delegate from Clay County to the State Medical Association Annual Meetings at various sessions and served the Clay County Medical Society in numerous capacities.

He was a member of the American College of Physicians and a Fellow of the American Medical Association. He is survived by his widow, a sister and one grandson. Funeral services were held October 9 at the First Christian Church at Liberty with burial in Fairview Cemetery.

"He was not what is popularly known as a great man," said the minister in his funeral discourse, "but Dr. Miller was loved by every man who knew him."

No man or woman ever shook hands with Dr. Miller who did not see the soul of him in those earnest brown eyes. No one ever heard his quiet, gentle voice, either in address or conversation, without being absolutely convinced of a sincerity that never forsook the speaker for one second. I knew him for many years; worked with him in various war departmental duties; saw the great heart of the man in his tears as we, with our brother physicians, measured our boys for "over there." Whenever Dr. Miller was there were his tender sympathies manifested toward those who did not look in vain for them.

In my own struggle for a medical education Dr. Miller staunchly seconded every effort

and, when my degree was finally earned, I found in him every courtesy of a professional brother. Somehow, Dr. Miller became an inspiration to me; just why, I do not know. Often I have wished I could be like him. I do not believe that any man ever enjoyed his society without being made better thereby. I shall remember him with love—and, I shall miss him, as who will not? The Clay County Medical Society honored him in a spirit that springs unbidden in the bosoms of his fellows and which will abide until we, like him, shall have passed on.

Clay County Medical Society has appointed the following committee to draft resolutions of respect: Drs. F. H. Matthews and J. H. Rothwell, Liberty, and Dr. C. H. Suddarth, Excelsior Springs.

JOHN J. GAINES, M.D.



WILLIAM JOSEPH HAM, M.D.

CREVE COEUR, MO.

1867 - 1928

Dr. William J. Ham, Creve Coeur, a graduate of St. Louis College of Physicians and Surgeons, 1898, died at his home November 6, 1928, of nephritis, aged 61.

Dr. Ham was born January 3, 1867, at Rushville, Missouri, and received his early education at that place and at Atchison, Kansas. His father, Joseph Ham, was a physician. After graduating from medical college he practiced in St. Louis for one year, then moved to Lake (St. Louis County) for one year, locating at Creve Coeur, a short distance from Lake, in 1900 and remaining there until his death. In 1897 he was married to Miss Nellie Bard Hogan, St. Louis, who died in 1926. He is survived by his seven children, William C., John

F., Lin D. and Charles E. Ham, and Mrs. Marie Monroe, Mrs. Ruth Boerm and Mrs. Dorothy VerTrees. His health had not been good for the past year but he continued to practice up to within a week of his death.

Dr. Ham was a man of splendid character, kind-hearted, and leaves a host of friends. He attended the Methodist Church and was a member of the Masonic Order, Modern Woodmen of America, Order of Eastern Star and the St. Louis County Medical Society.

GARNETT JONES, Chairman,
Necrology Committee, St.
Louis County Medical Society.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1928

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Benton County Medical Society, November 4, 1927.

St. Francois County Medical Society, January 3, 1928.

Webster County Medical Society, January 4, 1928.

Mercer County Medical Society, January 13, 1928.

Madison County Medical Society, January 18, 1928.

Chariton County Medical Society, February 23, 1928.

Ralls County Medical Society, March 10, 1928.

Platte County Medical Society, March 10, 1928.

Miller County Medical Society, March 16, 1928.

Camden County Medical Society, March 23, 1928.

Ste. Genevieve County Medical Society, March 26, 1928.

Atchison County Medical Society, March 30, 1928.

Caldwell County Medical Society, April 14, 1928.

Scotland County Medical Society, May 1, 1928.

Schuyler County Medical Society, May 8, 1928.

Wright-Douglas County Medical Society, May 10, 1928.

Boone County Medical Society, May 23, 1928.

Shelby County Medical Society, September 18, 1928.

Dent County Medical Society, September 19, 1928.

Bates County Medical Society, September 25, 1928.

Audrain County Medical Society, November 20, 1928.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Excelsior Springs, October 25, 1928, at six p. m. A sumptuous dinner was served at the Royal Hotel Cafe preceding the session to sixteen gentlemen and eight ladies. Members and their wives are always invited. The Auxiliary held a social meeting in the hotel parlors. The minutes of the last meeting of the Society were read and approved.

The Secretary, Dr. J. J. Gaines, Excelsior Springs, read the application of Dr. G. P. Alton, Gashland, for reinstatement of membership, which was unanimously approved.

On motion, seconded and carried, the chair appointed a committee consisting of Drs. F. H. Matthews and J. H. Rothwell, Liberty, and Dr. C. H. Suddarth, Excelsior Springs, to draft resolutions on the death of Dr. E. H. Miller, Liberty, October 7, 1928.

Dr. A. B. Jones, Kansas City, addressed the assembly on "Diagnosis and Treatment of Cardiac Disorders." The essayist mentioned many valuable points on auricular fibrillation and other valvular defects, both mitral and aortic. His success in treatment was the basis of many valuable suggestions; the disasters, so inevitable in this class of cases, were named and discussed so that the future may find these earnest men better armed against the ruthless enemy. The failing heart of pneumonia, which Dr. Jones admits is one of his "hobbies," was profoundly interesting and awakened a responsive chord in every mind and heart present.

Dr. Y. D. Craven, Excelsior Springs, read a paper on the "History of Medicine" from the most ancient data to the present time. This was one of the most interesting papers we have heard in a long time. The doctor has spent many hours in research and knows how to read a paper entertainingly.

"The ancients evidently attributed most of the diseases of their fellows to errors in eating. . . . they physicked unmercifully." If we of the modern age were just sensible enough to cease our gormandizing! The ancients certainly were on the right track—their theory fits in admirably right now.

The scientific program was instructive and well received. The meeting adjourned at 10:20 p. m. and the members felt well repaid for attending. Our interest remains at the top notch.

J. J. GAINES, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society met at Sullivan, October 16, 1928. Sessions were held at two in the afternoon and in the evening at 7:30 o'clock. A luncheon followed the afternoon session.

The special program committee consisted of Drs. C. F. Briegeleb, St. Clair; R. R. Cutler, Washington; A. L. McNay, Pacific; J. P. Dunigan, Sullivan. The following program was rendered:

A paper on "Physiotherapy in General Practice" was read by Dr. C. F. Briegeleb, St. Clair.

Dr. W. H. Breuer, St. James, past president of the State Medical Association, spoke on "Some Observations in the Management of Mitral Insufficiency."

"Canterization of the Cervix in Chronic Endocervicitis," was the subject discussed by Dr. C. E. Matlock, St. Louis.

Dr. A. Leroy Barnard, Rolla, gave a talk on "Chronic Posterior Urethritis and Inflammation of the Prostate."

Dr. W. C. Gayler, St. Louis, Councilor for the

20th District, read a paper on "The Obstetrical Forceps and Its Use."

The appointment of a full time county health commissioner for Franklin County and all questions pertaining to the county health unit were considered.

This was one of the best meetings ever held by the Society. Much valuable information was derived from the addresses given by the guests.

H. A. MAY, M.D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY

The Scott County Medical Society met in Benton, September 21, at 2:30 p. m. and elected the following officers: President, H. M. Kendig, Sikeston, reelected; secretary, U. P. Haw, Benton; board of censors, G. U. H. Presnell, Sikeston (three years); G. T. Dorris, Illmo (two years); L. O. Rhodes, Sikeston (one year).

U. P. HAW, M.D., Secretary.

SOUTHEAST MISSOURI MEDICAL ASSOCIATION

The Southeast Missouri Medical Association held its Fifty-Second Annual Meeting in the auditorium of State Hospital No. 4, Farmington, October 2 and 3, 1928. The President, Dr. Paul Baldwin, Kennett, presided. It is estimated that over one hundred attended the meeting. On Tuesday, October 2, a six o'clock dinner was served in the dining room of State Hospital No. 4 through the courtesy of Dr. Emmett F. Hctor, Superintendent.

The reading of the various papers together with the discussions indicated that physicians of this district are enthusiastic over the progress of medicine in Southeast Missouri.

Votes of appreciation were extended to Dr. Emmett F. Hctor, Farmington, for his many courtesies and to the Farmington *Times* for its cooperation.

Cape Girardeau was selected as the location for the next meeting of the Association. The physicians in attendance will cherish pleasant recollections of the Farmington meeting. The scientific program follows:

Tuesday, October 2

"Mental Hygiene," Dr. Emmett F. Hctor, Farmington; "Osteomyelitis," Dr. W. C. Dieckman, Dexter; "Useful Remedies," Dr. Charles E. Fallett, DeSoto; "Treatment of Pneumonia," Dr. Albert Habermaas, St. Louis; "Eye Disease From the Standpoint of the Otolaryngologist," Dr. W. D. Black, St. Louis; "Tumors of the Larynx," Dr. W. G. Patton, St. Louis; "Obstetrical Statistics Covering 1600 Cases," Dr. T. C. Allen, Bernie; "Some Suggestions for our Southeast Missouri Future Programs," Dr. John D. VanCleve, Malden; "Urgent Surgery and the Remuneration," Dr. John D. Porterfield, Jr., Cape Girardeau; "Mucous Colitis," Dr. George L. Watkins, Farmington; "Organic Diseases of the Central Nervous System," Dr. W. W. Graves, St. Louis; "Infant Care," Dr. A. L. Evans.

Wednesday, October 3

"Why Every County Should Have a Hospital," Dr. J. W. Pickel, Barnhart; "Case of Allergy, Simulating Paresis," Dr. S. P. Martin, East Prairie; "The Relation of the Otolaryngologist to the General Practitioner," Dr. Millard F. Arbuckle, St. Louis; "Treatment of Children from Standpoint of General Practitioner," Dr. R. H. Watson, Grandin; "Uses of X-Ray in Diseases of the Gallbladder," Dr. Carl A. W. Zimmermann, Cape Girardeau; "Civilization and Medicine" (President's Address), Dr.

Paul Baldwin, Kennett; "Spina Bifida" (Case Report), Dr. O. L. Seabaugh, Cape Girardeau; "Plantar Aponeurosis Inflammation," Dr. G. E. Joseph, St. Louis.

The memorial services in memory of Drs. W. R. Goodykoontz and R. T. Henderson were very impressive. Dr. A. H. Hamel, St. Louis, was in charge of the services.

E. J. NIENSTEDT, M.D.,
Corresponding Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, October 9, 1928

The meeting was called to order at 8:30 p. m. by the President, Dr. Charles Hugh Neilson. The minutes of the meeting of September 25, 1928, were read and approved.

Mr. Elmer J. Bell, representing the Fire Prevention Division of the St. Louis Safety Council, spoke for ten minutes on "Fire Prevention."

Dr. C. H. Neilson, in the absence of the vice presidents, called Dr. Amand Ravold to the chair to preside while he participated in the scientific program.

The program consisted of the following:
"Preparing the Patient for Operation," Dr. Charles Hugh Neilson.

"Preoperative Gynecological and Obstetrical Care," Dr. William H. Vogt.

"Preoperative and Postoperative Care of the Aged," Dr. William P. Glennon.

"Acute Emergency Abdominal Surgery," Dr. John McH. Dean.

Discussion by Drs. Francis Reder, George Gellhorn, Henrietta A. S. Bork, Augustus P. Munsch, and Henry J. Scherck; Drs. Vogt, Glennon and Dean closing.

Dr. C. H. Neilson announced the program for Tuesday, October 16.

Attendance 100.

ROLAND S. KIEFFER, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held in the Congregational Church of Webster Groves, Wednesday, November 14, 1928, at 3 p. m. The meeting was called to order by the President, Dr. Frank P. Knabb, Valley Park, with the following members present: Drs. C. P. Dyer, Garnett Jones and O. W. Koch, of St. Louis; L. W. Cape, P. N. Davis and E. E. Tremain, of Maplewood; Irene M. Blanchard, H. N. Corley, C. C. Irick, W. F. O'Malley and A. W. Westrup, of Webster Groves; J. D. Stoeltze, Clayton.

The scientific program given by Dr. A. O. Adams, Shriners' Hospital for Crippled Children, St. Louis, on "The Shrine and the Crippled Child," was both interesting and instructive. Dr. Adams illustrated his talk with lantern slides.

A report on the St. Louis County Hospital was given by Dr. P. N. Davis, Maplewood. The hospital is to have 150 beds in a general hospital, 50 beds in a separate building, and a nurses' home. The plans are made so that additions can be made as needed.

The application of Dr. F. L. Finley, St. Louis, by transfer from the St. Louis Medical Society, was approved and Dr. Finley was elected a member.

Dr. Garnett Jones, St. Louis, chairman of the Necrology Committee, attended the funeral of Dr. Wm. J. Ham, at Creve Coeur, and sent a report to the STATE JOURNAL and proper resolutions to the family.

E. E. TREMAIN, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1928-1929

President, Mrs. Willard Bartlett, St. Louis.

President-Elect, Mrs. M. P. Ravenel, Columbia.

1st Vice President, Mrs. Harry F. Parker, Warrensburg.

2nd Vice President, Mrs. T. O. Klingner, Springfield.

3rd Vice President, Mrs. M. A. Hanna, Kansas City.

4th Vice President, Mrs. James F. Owens, St. Joseph.

Corresponding Secretary, Mrs. Theodore Prewitt Brookes, St. Louis.

Recording Secretary, Mrs. David S. Long, Harrisonville.

Treasurer, Mrs. W. H. Goodson, Liberty.

Auditor, Mrs. Vilray P. Blair, St. Louis.

Directors (2 years): Mrs. T. S. Fleming, Moberly; Mrs. S. F. Freeman, Springfield; Mrs. Robert M. Schaffler, Kansas City; Mrs. Hudson Talbott, St. Louis; Mrs. J. J. Gaines, Excelsior Springs. (1 year): Mrs. C. T. Ryland, Lexington; Mrs. Frank Henchey, University City; Mrs. H. A. Brierly, Peculiar; Mrs. C. M. Sneed, Columbia; Mrs. E. N. Chastain, Butler.

ORGANIZED COUNTIES AND PRESIDENTS OF WOMEN'S AUXILIARIES

COUNTY	PRESIDENT	ADDRESS
Atchison.....	Mrs. E. P. Taylor.....	Fairfax
Audrain.....	Mrs. H. C. Brashear.....	Mexico
Bates.....	Mrs. E. N. Chastain.....	Butler
Boone.....	Mrs. M. P. Ravenel.....	Columbia
Buchanan.....	Mrs. F. H. Spencer.....	St. Joseph
Butler.....	Mrs. L. B. Knecht.....	Poplar Bluff
Caldwell.....	Mrs. Emma A. B. Thompson.....	Breckenridge
Cape Girardeau.....	Mrs. W. W. Ford.....	Gordonville
Cass.....	Mrs. J. S. Triplett.....	Harrisonville
Clay.....	Mrs. J. J. Gaines.....	Excelsior Springs
Clinton.....	Mrs. C. H. Risley.....	Cameron
Cole.....	Mrs. S. P. Howard.....	Jefferson City
Daviess.....	Mrs. L. R. Doolin.....	Gallatin
Dent.....	Mrs. A. T. McMurtry.....	Salem
Gentry.....	Mrs. J. N. Barger.....	Albany
Greene.....	Mrs. Paul F. Cole.....	Springfield
Grundy.....	Mrs. J. E. Neely.....	Trenton
Henry.....	Mrs. R. D. Haire.....	Clinton
Holt.....	Mrs. F. E. Hogan.....	Mound City
Iron.....	Mrs. R. W. Gay.....	Ironton
Jackson.....	Mrs. A. L. Skoog.....	Kansas City
Jasper.....	Mrs. C. C. Cummings.....	Joplin
Johnson.....	Mrs. H. F. Parker.....	Warrensburg
Knox.....	Mrs. W. F. O'Connor.....	Edina
Laclede.....	Mrs. J. C. Scott.....	Lebanon
Lafayette.....	Mrs. J. D. Guyot.....	Higginsville
New Madrid.....	Mrs. P. M. Mayfield.....	Portageville
Phelps.....	Mrs. A. S. McFarland.....	Rolla
Pike.....	Mrs. T. G. Hetherlin.....	Louisiana
Platte.....	Mrs. H. M. Clark.....	Platte City
Randolph.....	Mrs. T. S. Fleming.....	Moberly
St. Francois.....	Mrs. G. L. Watkins.....	Farmington
St. Louis City.....	Mrs. Raymond M. Spivy.....	St. Louis
St. Louis.....	Mrs. W. F. O'Malley.....	Webster Groves
Saline.....	Mrs. F. A. Howard.....	Slater
Scotland.....	Mrs. P. M. Baker.....	Memphis
Vernon-Cedar.....	Mrs. T. B. Todd.....	Nevada

BUCHANAN COUNTY AUXILIARY

The October meeting of the Women's Auxiliary to the Buchanan County Medical Society was held at the home of Mrs. A. B. McGlothlan, St. Joseph, past president, on October 11, 1928, at three o'clock.

At a short business session the president, Mrs. W. L. Kenney, St. Joseph, announced her committees for the year.

Mrs. A. B. McGlothlan told of the meeting held at the Y. W. C. A. by the May Day Child Health Day Committee and other health organizations, at

which meeting the Auxiliary was represented by Mrs. W. L. Kenney, St. Joseph.

The Auxiliary voted to hold joint meetings with these health organizations and to secure outside speakers for the meetings.

Mrs. O. G. Gleaves, St. Joseph, Parliamentarian, was reported seriously ill, and the Auxiliary voted to send her flowers.

The secretary's minutes and the treasurer's report were read.

Mrs. Willard Bartlett, St. Louis, President of the State Auxiliary, was the guest of honor and was introduced by Mrs. A. B. McGlothlan as the organizer of the Auxiliary in Missouri and as one who has served continuously to develop and establish it. Mrs. Bartlett gave an interesting talk on the ideals of the Auxiliary and said that the aims of the Auxiliary were (1) to assist in promoting health work, and (2) to foster a spirit of friendliness and good-will among the members. She told of some of the accomplishments of the Auxiliary throughout the state and of the St. Louis Auxiliary in showing health films in the motion picture houses and in giving prizes to the Girl Scouts.

Following Mrs. Bartlett's talk tea was served by Mrs. M. P. Overholser, St. Joseph, a past president of the State Auxiliary, and Mrs. J. F. Owens, St. Joseph, a member of the Executive Board of the State Auxiliary. They were assisted by members of the Executive Board of the Buchanan Auxiliary.

This was the third tea given by Mrs. McGlothlan for the Auxiliary which the members appreciated and enjoyed. She is constantly interested in the progress of the Auxiliary and it is largely due to the untiring efforts of Mrs. McGlothlan that the county, state and national Auxiliaries have been so successful in Hygeia work.

JACKSON COUNTY AUXILIARY

The Jackson County Auxiliary planned for October a tea during the meeting of the fall session of the Kansas City clinics. The tea was held at the lovely country home of Mrs. John G. Hayden, Kansas City, at two p. m. Wednesday, October 10. There was a large attendance. The visiting women were asked to assemble at Ararat Temple at two o'clock, where transportation awaited them. As the afternoon was fine, the drive into the country was much enjoyed.

The program was in charge of Mrs. A. W. McAlester, Kansas City, assisted by a committee.

Mrs. Willard Bartlett, St. Louis, State President, was the special guest and speaker of the afternoon and spoke on the ideals and activities of the Auxiliary.

Two of Kansas City's outstanding artists, Mr. Stanley Deacon, baritone, and Mrs. Sam Roberts, pianist, gave a short, delightful program.

NODAWAY COUNTY AUXILIARY

At a recent meeting of the Women's Auxiliary to the Nodaway County Medical Society the following officers were elected: President, Mrs. H. S. Maxwell, Hopkins; first vice president, Mrs. R. C. Person, Maryville; second vice president, Mrs. E. L. Crowson, Pickering; corresponding secretary, Mrs. C. W. Kirk, Hopkins; recording secretary, Mrs. W. M. Hindman, Burlington Junction; treasurer, Mrs. L. E. Dean, Maryville. Chairman of Hygeia Committee, Mrs. C. P. Fryer, Maryville; Courtesy Committee, Mrs. H. S. Rowlett, Maryville, chairman; Mrs. C. T. Bell, Maryville.

ST. LOUIS CITY MEDICAL SOCIETY AUXILIARY

A Year in Picture

Mrs. Hudson Talbott, St. Louis, whose term as president of the St. Louis City Auxiliary expired last June, reports as follows:

After three months of rest from Auxiliary affairs it may be interesting to look back over the past year, getting, as it were, a better perspective of this memory picture for being somewhat removed from it.

As a background we see those monthly Board meetings, the source of all the enthusiasm and the determined energy so necessary to serve dinners, to sell Hygeia, to collect dues, to increase the membership, to do our bit toward public health conservation and last, but not least of our goals, to create a friendly, loyal spirit among our members and in our Medical Society.

If anything of worth or pleasure stands out in this picture of our past year together, know that the idea was born with much hard labor in a monthly Board meeting. Don't think it is only a gracious compliment to belong to "the Board." That body is made up of women who are pledged to serve with their brains and their brawn as well as their names. The attendance and the spirit of the Board meetings were without parallel in our experience with organization routine.

Against this necessary background of Board meetings stand out a few high points, "Peaks of Pleasure" we might call them,—dinners with husbands and friends in our beautiful banquet hall, music and a dance or game of bridge afterward, perhaps only a chat with friends, but delightful hours nevertheless. Dr. Vosburgh's Christmas party for the children is a dash of sunlight in the picture. Why not let the children of the profession get acquainted and grow into the idea that they have common interests and a beautiful meeting place in common?

In the center of our picture we see a deep quiet pool—for the sake of alliteration it might be called the Lake of Love. Around it is grouped all our plans and purposes and from it comes the very life with which we carry on. The spirit of this lake is personified in our health-education chairman. How worth while our existence seems when we listen to the reports of her service among classes less favored with the knowledge for health protection than are doctors' families. Under this phase of our work we mention creditable cooperation with the Community Fund Drive, the Tuberculosis Society and the Child Health Campaign.

An essential element to every picture of appeal is the right atmosphere. This element is one of the best points in the picture of our past year's Auxiliary life. Whatever failures have been made in attaining other ideals, we are really happy over the spirit of friendliness which pervades our organization.

So much for the year's accomplishments as a whole. For those who are statistically minded, we submit the following from the annual reports:

Treasurer—Receipts, \$1,305.16; Disbursements, \$1,191.02.

Corresponding Secretary—Three thousand letters and cards sent out.

Education Chairman—Two thousand circulars or health-helms distributed.

Membership Chairman—71 new members.

Hygeia Chairman—67 new subscriptions.

Hospitality Chairman—Four dinners, two afternoon teas and one luncheon served.

The excellent work of Press, Program and Serv-

ice Chairmen could not be put into figures, but was most gratifying. We are beginning to appreciate our opportunities as an organization and are confidently looking forward to a year of great pleasure and service under the leadership of Mrs. Spivy and her able staff.

Tea in Honor of Mrs. McReynolds

The Women's Auxiliary to the St. Louis Medical Society gave a tea in honor of Mrs. John O. McReynolds, Dallas, Texas, President of the Women's Auxiliary to the American Medical Association, and other ladies attending the meeting of the American Academy of Ophthalmology and Otolaryngology, Wednesday afternoon, October 17, at the St. Louis Medical Society Building.

The president of the St. Louis Auxiliary, Mrs. Raymond M. Spivy, outlined the work of the organization for the coming year. The program of the Entertainment and Program Committees under Mrs. Carroll Smith and Mrs. Frank R. Finnigan respectively, will include a tea in honor of the seventy new members secured through the efforts of Mrs. McKim Marriott and her Membership Committee, one or two dinners for the St. Louis Medical Society and various afternoon meetings with outside speakers. The Educational Committee is headed by Mrs. G. N. Seidlitz and Mrs. Vernon Mastin has charge of the Hygeia work.

Dr. V. T. Williams and Dr. Ronald Elkins presented a delightful musical program.

Mrs. Willard Bartlett, President of the Women's Auxiliary to the State Medical Association, enumerated some of the activities of Auxiliaries throughout the state and told how they could be an aid in civic health programs.

Mrs. John O. McReynolds gave an interesting talk on the work of various medical Auxiliaries over the country, stressing particularly what has been accomplished by the use of health motion pictures in Texas to educate the public in regard to health conditions and preventive medicine. A very instructive health film was shown illustrating the dangers of overweight, together with its proper treatment, diet and exercise under the supervision of a physician.

The meeting adjourned to the dining room for tea and a reception to Mrs. McReynolds and the other guests of honor. About one hundred and fifty members were present.

Notes

At the recent convention of the Missouri Parent-Teachers Association held in Trenton the Women's Auxiliary was well represented by Mrs. M. P. Overholser, St. Joseph, past president of the State Auxiliary and now chairman of Mental Hygiene in the Parent-Teachers Association, Mrs. A. B. McGlothlan, St. Joseph, chairman of Health, and Mrs. Robert M. Schauffler, Kansas City, chairman of Social Hygiene.

Mrs. A. B. McGlothlan, St. Joseph, writes: "We had a health literature booth with Miss Ferguson, of the State Tuberculosis Society, in charge. The executive secretary of the Kansas City Social Hygiene Society was in charge of their literature and motion pictures on health. An excellent Hygeia display was included."

Mrs. McKim Marriott, Fourth Vice President and Chairman of Membership, reports the gratifying result of ninety-six new members added to the rolls

in October as the result of a letter sent to the women eligible for membership who had not already joined the organization.

At the next meeting of the Auxiliary there will be a program tea in honor of the new members on Thursday afternoon, November 22, 1928, at three o'clock, at the St. Louis Medical Society building. The program is in charge of Mrs. G. N. Seidlitz, and the speaker will be Dr. Harriet Stevens Cory. Mrs. French K. Hansel, with a committee, is in charge of the arrangements for the tea, assisting Mrs. Frank R. Finnigan, vice president and chairman of hospitality.

Mrs. Carroll Smith has been appointed to fill the vice presidency of the St. Louis Auxiliary from which Mrs. C. H. Neilson was obliged to resign because of illness.

Books for Leisure Moments

A very exciting story is found in MacKinlay Kantor's "Diversey" (Coward-McCann, Inc., New York City). The events in the lives of the main characters are carried along throughout the book in a lively and most interesting manner. The author reveals much originality in this book and he has good eyes for details as well as an ironic touch. He weds realism with romance. The book is a lively tale of Chicago where Mr. Kantor has lived for the past three years and he is therefore in position to write just such a story as "Diversey." Here is a true story of Chicago's machine guns and cafeterias, her artists and gin-crazed women, and her county building where the word of gangsters has been "law and gospel."

We take up the story of Marry Javlyn, an emotional boy from a small town newspaper office in Clay City, Iowa. Even in the short time it took him to establish himself in the rooming house where the rates were within his means we find his outlook on life altering. His characteristics are changing and the life of the city with its loose morals already has him in its clutches. Clay City is but ten hours—three hundred and eighty miles—behind him, but with a shrug of his shoulders he stifles the urgings of the still, small voice and decides that now is the time for his "Experiences."

As is usually the case with the majority of young people, strangers and alone in the big city, the weary routine of hunting for work leaving them worn and dejected, so it was with the young Iowa boy. This was Chicago as he had found it—hurry, hurry, all the time. Whether pursuing or being pursued it was still the same hurry, hustle and roar. If one galloped three million more of the same species were galloping just as fast, and even faster. Then comes the fatal decision that so many make and live to regret—to get what one desires no matter how it be gotten, because if one

doesn't get it some other person will. If Chicago were holy, Marry hadn't found it out. However, in writing the story of Chicago the author has drawn a picture applicable to any of our large cities.

The story is apt to keep you reading all night. As you read you rather unconsciously form the wish that so many young people would not pour into the cities eager and alert for the experiences of life, knowing they are doomed to so many heartaches and disappointments. It is with great interest that we follow the events in the life of Marry Javlyn and we cannot help but censure him for his selfish and devastating passion for the little slum girl, Josephine Ruska. We are horrified by the many circumstances and deadly cross-currents that occur in his life. But as the Washington, D. C. *Post* comments, "It is the most stimulating book that has come to this desk in a distressingly long time." L. C.

BOOK REVIEWS

THE OPIUM PROBLEM. By Charles E. Terry, M.D., and Mildred Pellens. For the Committee on Drug Addictions in collaboration with The Bureau of Social Hygiene. The Bureau of Social Hygiene, Inc., 370 Seventh Ave., New York City, New York. 1928.

This very exhaustive survey of over one thousand pages is unique in its organization of verbatim opinions of hundreds of students of the drug problem.

The data upon the history, development, physical phenomenon, pathology, psychology, treatment, and various spheres of control was obtained from textbooks, reports of investigations and studies, and questionnaires sent to those connected professionally with the problem. The sources are reviewed in chronologic order covering the period from 1550 B. C. to 1928 A. D.

The volume contains also numerous appendices in which are found the rules and regulations for control adopted by the various national and international drug conferences.

The book is primarily a scientific compilation of expert and historic opinion and no concessions in either style or organization have been made for the lay or quasi-scientific reader. V. B. S.

GNOCOCCAL URETHRITIS IN THE MALE. For Practitioners. By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania, etc. Octavo volume of 357 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1928. Price \$5.00.

A book well written, delightful to read because of forceful argument and splendid rhetorical constructions: "light" upon the mystifying subject of gonorrhea, however, is not thrown with the gratification that the reader craves when he first glances at the subject matter. There is much that is original with the author: theories of his own based on an extensive practice in this field; but, like every one's

extensive experience with this disease, the results are merely ideas and measures added to the already over-abundant suggestions found everywhere.

In many instances the author fails to definitely established the reasons for his views, hence fails to explain many of the curious actions observed in the pathology and therapeutics of this malady. This, of course, is due largely to our ignorance, or let us say, rather, our very limited knowledge of the biology and biochemistry of the gonococcus of Neisser and the actual pathological changes in the tissues occurring in the various stages of the disease under consideration.

The author, like the majority of writers before him, even as far back as 30 years ago, e. g., Oppenheimer, warns against instrumentation of the urethra, favors the use of irrigation in anterior (acute) urethritis, and presents the age-old measure of injections with the hand syringe; even the old illustrations are there too. Why these still remain in the armamentarium of the gonorrheal therapist is difficult to explain.

Part two, presenting case histories, is interesting but the incidents are so incomplete and the data often so peculiarly distorted that they serve more as subject for debate or discussion than material for instruction. The foreword, however, is delightfully written and full of true and valuable statements and observations.

To summarize, the book is an interesting addition to our very limited material on the subject of gonorrhea in the male but, unfortunately, it is as far from the will-o-the-wisp as any other of the numerous endeavors of the past. M. G.

CONSERVING THE SIGHT OF SCHOOL CHILDREN. A Program for Public Schools. A report of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, published by the National Society for the Prevention of Blindness; second edition; revised; sixty pages; illustrated. Available at cost, National Education Association, 1201 Sixteenth Street N. W., Washington, D. C., American Medical Association, 535 North Dearborn Street, Chicago, Ill., or National Society for the Prevention of Blindness, 370 Seventh Avenue, New York, N. Y. Price 35c net.

This report, prepared under the editorship of Dr. Thomas D. Wood, Chairman of the Joint Committee, has the purpose of supplying teachers, school officials, and others concerned with vision problems as related to education, with information, advice and practical directions which will promote the conservation of vision of school children. The present edition includes an illustration of the Symbol E Chart and a Letter Chart, both drawn scientifically to Snellen scale, for use from a twenty-foot distance. All directions for the use of these charts in testing the vision are in line with the most modern approved practice of those now adequately safeguarding the eye health of school children. The new pages and illustrations discussing the technic of using the symbol chart with little children, by adapting it to a game of play, are most convincing evidence of its practical utility for use with young children as well as for older groups. The new chapter on Lighting the Schoolroom is sound in teaching and easily understood by nurses and teachers.

This booklet might well be in the hands of all doctors, nurses and teachers concerned with testing the vision of school children or with promoting eye hygiene.

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BOOKS RECEIVED

CRITERIA FOR THE CLASSIFICATION AND DIAGNOSIS OF HEART DISEASE. By the Heart Committee of the New York Tuberculosis and Health Association, Inc. New York: Paul B. Hoeber, Inc. 1928. Price \$1.50.

PHYSICAL EDUCATION ACTIVITIES FOR HIGH SCHOOL GIRLS. By the Staff of the Department of Physical Education for Women, University of Michigan, Ann Arbor, Michigan. Illustrated with 54 engravings. Philadelphia: Lea & Febiger. 1928. Price \$3.50.

ESSENTIALS OF PRESCRIPTION WRITING. By Cary Eggleston, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School, New York City. Fourth edition, revised. Philadelphia and London: W. B. Saunders Company. 1928. Price \$1.50.

GYNECOLOGY FOR NURSES. By Harry Sturgeon Crossen, M.D., F.A.C.S., Professor of Clinical Gynecology, Washington University Medical School, etc. With 365 engravings, including one color plate. St. Louis: The C. V. Mosby Company. 1927. Price \$2.75.

PHYSICAL DIAGNOSIS. By W. D. Rose, M.D., Associate Professor of Medicine in the University of Arkansas, Little Rock, Ark. Fifth edition. Three hundred ten illustrations and three color plates. St. Louis: The C. V. Mosby Company. 1927. Price \$10.00.

LABORATORY MANUAL OF THE MASSACHUSETTS GENERAL HOSPITAL. By Roy R. Wheeler, M.D., and F. T. Hunter, M.D. Second edition, enlarged and thoroughly revised. Philadelphia: Lea & Febiger. Price \$1.75.

This little book deals with the latest methods of Clinical Medicine as practiced at the Massachusetts General Hospital. E. S.

A PRACTICAL MEDICAL DICTIONARY. Of Words Used in Medicine With their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and Other Special Terms, etc. By Thomas Lathrop Stedman, A.M., M.D., Editor of the "Twentieth Century Practice of Medicine" and of the "Reference Handbook of the Medical Sciences." Formerly Editor of the "Medical Record." Tenth, revised edition. Illustrated. New York: William Wood and Company. 1928. Price \$7.50.

DISEASES OF THE GALL BLADDER AND BILE DUCTS. A Book for Practitioners and Students. By Evarts Ambrose Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine, St. Louis, etc., Warren Henry Cole, B.S., M.D., Instructor in Surgery, Washington University School of Medicine, etc., Glover H. Copher, A.B., M.D., Assistant Professor of Surgery, Washington University School of Medicine, etc. and Sherwood Moore, M.D., Professor of Radiology, Washington University School of Medicine, etc. Illustrated with 224 engravings and 8 colored plates. Philadelphia: Lea & Febiger. 1928. Price \$8.00.

STRABISMUS. ITS ETIOLOGY AND TREATMENT. By Oscar Wilkinson, A.M., M.D., D.Sc., Surgeon in Chief of Washington Eye and Ear Hospital, Washington, D. C. Illustrated. St. Louis: The C. V. Mosby Company. 1927. Price \$10.00.

FIRST AID AND MEDICAL SERVICE IN INDUSTRY. Published by Johnson and Johnson, New Brunswick, N. J.

A copy of this book will be sent to any physician who is interested in first aid and medical service in industry.

THE MECHANICS OF THE DIGESTIVE TRACT. An Introduction to Gastroenterology. By Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation). With one hundred illustrations. Second edition. New York: Paul B. Hoeber, Inc. 1928.

THE OPIUM PROBLEM. By Charles E. Terry, M.D., and Mildred Pellens. For the Committee on Drug Addictions in collaboration with The Bureau of Social Hygiene. The Bureau of Social Hygiene, Inc., 370 Seventh Ave., New York City, New York. 1928.

SOLUBILITIES OF INORGANIC AND ORGANIC COMPOUNDS. A Compilation of Quantitative Solubility Data from the Periodical Literature. By Atherton Seidell, Ph.D., Hygienic Laboratory, U. S. Public Health Service, Washington, D. C. Supplement to the second edition containing data published during the years 1917-1926 inclusive. New York: D. Van Nostrand Company, Inc., 8 Warren Street. 1928. Price \$8.00.

TEXTBOOK OF UROLOGY. For Students and Practitioners. By Daniel N. Eisendrath, M.D., Attending Urologist Michael Reese and Chicago Memorial Hospitals, etc., and Harry C. Rolnick, M.D., Associate Urologist Mt. Sinai Hospital, etc. 700 black and white illustrations. Eleven in color. Philadelphia and London: J. B. Lippincott Company. Price \$9.00.

CONSTITUTIONAL INADEQUACIES. An Introduction to the Study of Abnormal Constitutions. By Nicola Pende, M.D., Professor of Clinical Medicine, Royal University of Genoa, Italy. Translated by Sante Naccarati, M.D., Sc.D., Ph.D., Associate Professor of Nervous and Mental Diseases, Post-Graduate Medical School of New York, New York City. With a Foreword by George Draper, M.D., Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, Columbia University, etc. Illustrated. Philadelphia: Lea & Febiger. 1928. Price \$3.50.

A TEXTBOOK OF PHARMACOLOGY AND THERAPEUTICS or The Action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D., LL.D., F.R.S., Late Professor of Materia Medica and Pharmacology in the University of Edinburgh. Ninth edition, thoroughly revised. By C. W. Edmunds, A.B., M.D., Professor of Materia Medica and Therapeutics in the University of Michigan, Ann Arbor, Mich. and J. A. Gunn, M.A., M.D., D.Sc., Professor of Pharmacology in the University of Oxford, Oxford, England. Illustrated with 73 engravings. Philadelphia: Lea & Febiger. 1928. Price \$6.00.







